ANNUAL REPORT
OF
OCEANOGRAPHIC OBSERVATIONS
海 洋 調 査 年 報

Volume 9

1960

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國 立 水 產 振 興 院
Fisheries Research and Development Agency
The Republic of Korea
Pusan, Korea
December, 1964

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凡　　例

時　刻 : 大韓民國 標準時 (東經 127度 30分)임.

水　溫 : 攝氏度數(°C)이며 示度는 百分之壹임.

塩　分 : 千分率(‰)로 表示됨.

水　深 : m法으로 表示됨.

透明度 : 透明度板에 依한 測定値로서 m法으로 表示됨.

水　色 : Forel 水色標準液의 水色番號(1～11號)임.

波　浪 : 10 階級法(0～9)에 依함.

구　니 : 4 階級法(0～3)에 依함.

波高는 0=0 m, 1=2 m 未滿, 2=2～4 m 未滿, 3=4 m 以上.

氣　溫 : 攝氏度數(°C)이며 示度는 拾分之壹임.

氣　壓 : Aneroid 氣壓計에 依한 觀測値이며 mm 로 表示됨.

風　 : 風向은 16 方位法 (磁針方位)에 依함.

風力은 Beaufort 風力階級에 依함.

雲　 : 雲形은 十種雲形法에 依함.

雲量은 天空의 十等分法에 依함.

天　氣 : 快晴(B)=雲量 0～2, 晴(BC)=雲量 3～7, 曇(C)=雲量 8～10, 雨(R), 霧(F), 雪(S) 等으로 區分됨.

浮游生物 "+"標는 浮游生物이 存在한다는 表示임.

EXPLANATIONS

Time	: Korean Standard Time used the mean solar time referred to the meridian of 127°30' E.
Water Temperature	: Recorded in hundredths of a degree in Centigrade.
Salinity	: Expressed in parts per thousandth, determined by the Knudsen Method.
Depth	: Expressed in meters determined by the wire length and its angle.
Transparency	: Expressed in meters determined by the Secchi disk.
Color of the sea	: Recorded in numbers of Forel Scale.
Wind Wave	: Expressed in the scale (0~9).
Swell	: Expressed in the scale (0~3) The scale and the wave heights are as Follows: 0=0 m, 1=less than 2 m, 2=2~4m, 3=greater than 4 m.
Air Temperature	: Recorded in tenths of a degree in Centigrade.
Air Pressure	: Recorded in mm obtained from the direct reading of Aneroid Barometers.
Wind Direction	: Given in 16 Point scale of the Compass bearing.
Velocity	: Given in Beaufort Scale.
Cloud Type	: Recorded in ten types of cloud.
Cover	: Expressed in tenths of the whole sky covered.
Weather	: Recorded in present weather. The weather and the cloud cover are as follows: B = 0~2, BC = 3~7, C = 8~10.
Plankton	: "+" indicates the existence of plankton organisms.

第一編

沿岸定地海洋觀測成績

PART I

COASTAL OCEANOGRAPHIC OBSERVATIONS

1960

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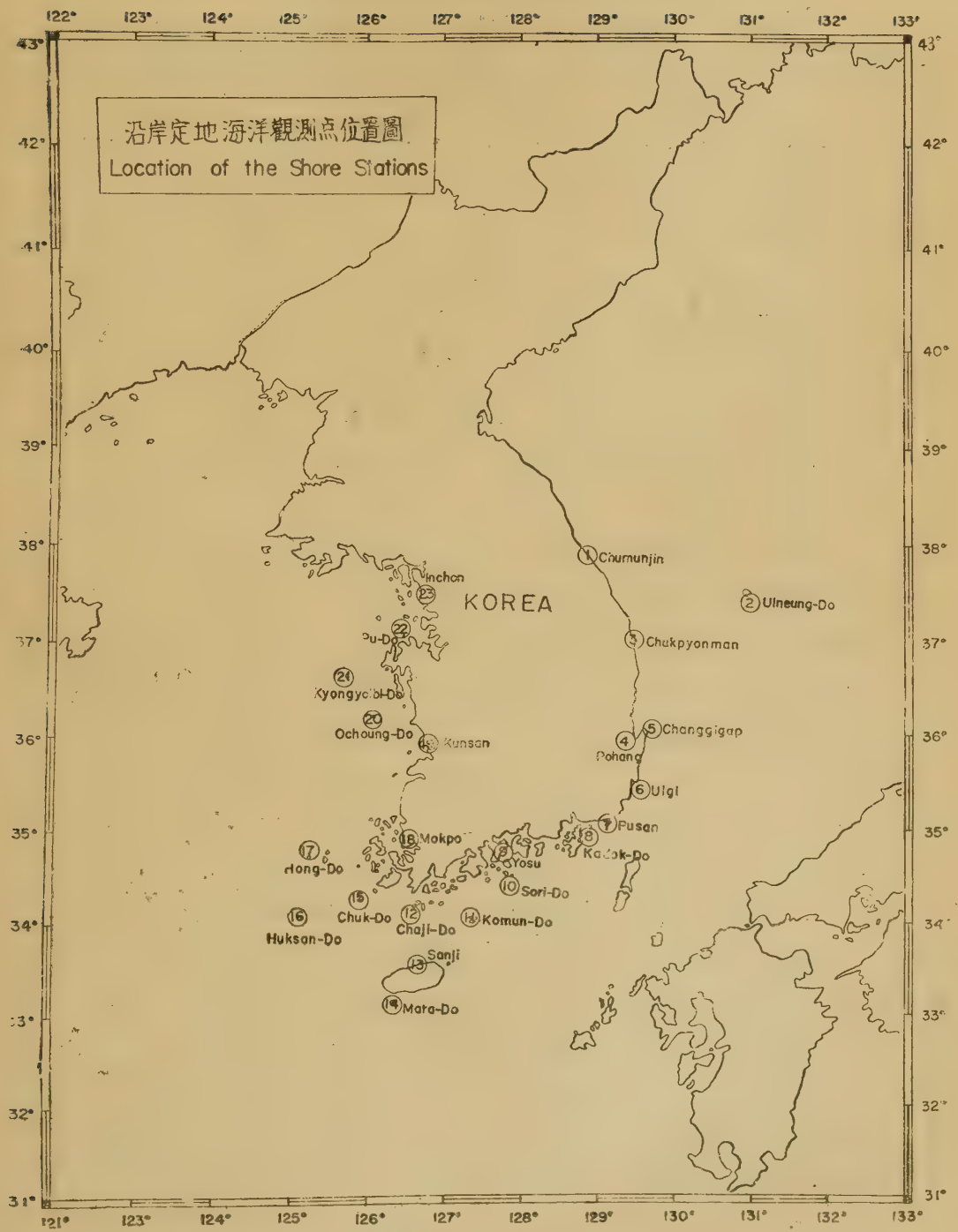
沿岸定地海洋觀測点位置圖
Location of the Shore Stations
KOREA
1 Chumunjin
2 Ulneung-Do
3 Chukpyonman
4 Pohang
5 Changgigap
6 Ulgi
7 Pusan
8 Kadok-Do
9 Yosu
10 Sori-Do
11 Komun-Do
12 Chaji-Do
13 Sanji
14 Mara-Do
15 Chuk-Do
16 Huksan-Do
17 Hong-Do
18 Mokpo
19 Kunsan
20 Ochoung-Do
21 Kyongyokbi-Do
22 Pu-Do
23 Inchon
122° 123° 124° 125° 126° 127° 128° 129° 130° 131° 132° 133°
43° 42° 41° 40° 39° 38° 37° 36° 35° 34° 33° 32° 31°

沿岸定地海洋觀測點位置表
POSITION OF THE SHORE STATIONS

海域 Region	番號 No.	觀測地名 Name of Station	位置 Location 北緯 Lat. (N)	東經 Long.(E)	觀測回數 Freqency of Observations	觀測開始年月日 Date of Inauguration
東海岸 East Coast	①	注文津 Chumunjin	37° 53' 45"	128° 50' 00"	每日 Daily ※	1952. 8
	②	鬱陵島 Ulneung-Do	37° 29' 05"	130° 54' 23"	每日 Daily	1931.11
	③	竹邊灣 Chukpyonman	37° 03' 19"	129° 26' 01"	每日 Daily	1916. 7
	④	浦項 Pohang	36° 02' 56"	129° 23' 09"	每日 Daily	1946. 7
	⑤	長鬐岬 Changgigap	36° 04' 41"	129° 04' 20"	每日 Daily	1916. 7
	⑥	蔚崎 Ulgi	35° 29' 40"	129° 26' 45"	每日 Daily	1939. 1
南海岸 South Coast	⑦	釜山 Pusan	35° 03' 32"	129° 03' 58"	每日 Daily	1925. 3
	⑧	加德島 Kadok-Do	34° 59' 13"	128° 49' 46"	每日 Daily	1930. 1
	⑨	麗水 Yosu	34° 43' 56"	127° 44' 18"	每日 Daily	1921. 1
	⑩	所里島 Sori-Do	34° 24' 16"	127° 48' 11"	每日 Daily	1928. 4
	⑪	巨文島 Komun-Do	34° 00' 10"	127° 19' 44"	每日 Daily	1916. 7
	⑫	者只島 Chaji-Do	34° 06' 42"	126° 06' 27"	每日 Daily	1928. 4
	⑬	山地 Sanji	33° 31' 17"	126° 33' 00"	每日 Daily	1923.10
	⑭	馬羅島 Mara-Do	33° 06' 57"	126° 16' 17"	每日 Daily	1923.10
西海岸 West Coast	⑮	竹島 Chuk-Do	34° 13' 30"	125° 51' 00"	每日 Daily	1916. 7
	⑯	黑山島 Huksan-Do	34° 05' 30"	125° 05' 20"	每日 Daily	1925.10
	⑰	紅島 Hong-Do	34° 42' 43"	125° 12' 33"	每日 Daily	1933. 1
	⑱	木浦 Mokpo	34° 47' 30"	126° 23' 31"	每日 Daily	1928. 8
	⑲	群山 Kunsan	35° 59' 15"	126° 43' 00"	每日 Daily	1939. 4
	⑳	於靑島 Ochong-Do	36° 07' 20"	125° 58' 00"	每日 Daily	1916. 7
	㉑	格列飛島 Kyoknyolbi-Do	36° 37' 18"	125° 33' 32"	每日 Daily	1916. 7
	㉒	鳧島 Pu-Do	37° 08' 57"	126° 21' 00"	每日 Daily	1926. 1
	㉓	仁川 Inchon	37° 28' 41"	126° 36'00"	每日 Daily	1938. 1

※ 每日 午前 10時 觀測
At 10 a.m. everywhere.

1. 沿岸定地月別表面水温

SURFACE WATER TEMPERATURES

月 Month	観測地名 Station / 旬 Ten day	① 注文津 Chumunjin	② 鬱陵島 Ulneug-Do	③ 竹邊灣 Chukbyonman	④ 浦項 Pohang	⑤ 長鬐岬 Changgigap	⑥ 蔚崎 Ulgi	⑦ 釜山 Pusan
一月 Jan.	上旬 1st	10.97	16.73	9.93	10.02	11.23	13.08	10.46
	中旬 2nd	10.66	15.44	9.48	8.99	10.05	12.41	10.48
	下旬 3rd	9.29	13.33	8.96	8.23	9.80	12.11	10.17
	月平均 Mean	10.31	15.17	9.46	9.08	10.03	12.53	10.37
二月 Feb.	上旬 1st	10.02	11.52	8.34	9.45	8.76	12.29	11.48
	中旬 2nd	9.36	11.95	8.04	8.62	9.48	12.10	11.93
	下旬 3rd	10.08	11.75	8.17	9.20	8.29	12.70	11.33
	月平均 Mean	9.82	11.74	8.18	9.09	8.82	12.37	11.55
三月 Mar.	上旬 1st	10.54	11.61	8.56	10.30	11.08	13.45	12.16
	中旬 2nd	10.37	11.48	8.71	10.33	10.69	14.34	12.85
	下旬 3rd	10.57	10.86	9.28	11.91	11.00	14.45	12.52
	月平均 Mean	10.49	11.32	8.86	10.85	10.92	14.08	12.51
四月 Apr.	上旬 1st	10.43	10.95	10.26	12.97	11.55	13.57	12.84
	中旬 2nd	11.21	11.19	10.69	13.46	12.61	13.53	13.42
	下旬 3rd	11.97	11.59	11.22	15.19	14.66	14.17	14.70
	月平均 Mean	11.20	11.15	10.72	13.87	12.94	13.76	13.65
五月 May	上旬 1st	12.35	12.86	14.78	15.56	16.16	13.99	15.79
	中旬 2nd	13.47	13.14	14.50	15.53	15.72	13.44	15.57
	下旬 3rd	15.70	14.83	15.00	19.99	17.66	14.22	15.98
	月平均 Mean	13.84	13.91	14.76	17.03	16.52	13.88	15.78
六月 Jun.	上旬 1st	14.92	16.12	16.99	22.71	18.10	14.89	16.85
	中旬 2nd	17.97	16.94	19.19	23.51	19.71	15.34	18.29
	下旬 3rd	18.33	18.44	17.16	21.96	22.24	15.31	19.09
	月平均 Mean	17.07	17.16	17.75	22.73	20.22	15.18	18.08
七月 Jul.	上旬 1st	18.79	18.28	19.51	23.00	20.43	15.77	19.50
	中旬 2nd	20.90	20.02	25.86	24.20	24.81	16.48	21.77
	下旬 3rd	24.24	22.40	25.51	26.81	25.15	17.15	20.64
	月平均 Mean	21.31	20.23	23.31	24.67	23.46	16.47	20.64
八月 Aug.	上旬 1st	26.15	22.20	23.00	28.70	26.23	19.94	24.69
	中旬 2nd	25.78	22.85	23.71	28.84	25.05	21.21	26.77
	下旬 3rd	23.37	22.19	24.38	27.31	24.14	21.85	26.04
	月平均 Mean	25.10	22.36	23.69	28.27	25.14	21.00	25.83
九月 Sep.	上旬 1st	23.10	21.96	25.55	24.13	22.73	23.75	24.88
	中旬 2nd	22.09	22.21	22.44	22.20	21.62	24.42	23.41
	下旬 3rd	21.14	20.72	21.89	21.89	21.29	23.89	22.85
	月平均 Mean	22.11	21.40	22.29	22.74	21.88	24.02	23.71
十月 Oct.	上旬 1st	19.09	19.30	12.71	20.39	19.64	22.29	20.35
	中旬 2nd	19.06	18.81	20.09	19.34	18.56	21.71	20.12
	下旬 3rd	17.15	17.95	19.90	18.62	18.02	19.75	19.84
	月平均 Mean	18.43	18.02	20.84	19.45	18.74	21.25	20.10
十一月 Nov.	上旬 1st	16.28	17.96	20.22	18.04	15.76	19.16	18.75
	中旬 2nd	15.45	16.25	20.36	15.77	12.78	18.87	17.45
	下旬 3rd	15.10	15.99	17.21	14.20	12.08	17.41	15.53
	月平均 Mean	15.94	16.76	19.26	16.00	13.54	18.48	17.24
十二月 Dec.	上旬 1st	12.73	15.31	15.45	13.06	7.97	15.98	13.29
	中旬 2nd	11.86	13.51	15.00	11.84	7.93	15.04	11.35
	下旬 3rd	11.13	13.79	14.22	10.79	5.99	14.16	10.23
	月平均 Mean	11.91	14.57	14.89	10.82	7.29	15.06	11.62
年 Year	年平均 Mean	15.63	16.15	16.17	17.05	15.77	16.51	16.76

月 Month	旬 Ten day ＼ 觀測地名 Station	⑧ 加德島 Kadok-Do	⑨ 麗水 Yosu	⑩ 所里島 Sori-Do	⑪ 巨文島 Komun-Do	⑫ 者只島 Chaji-Do	⑬ 山地 Sanji	⑭ 馬羅島 Mara-Do	⑮ 竹島 Chuk-Do
一月 Jan.	上旬 1st	11.19	7.79	11.82	13.91	11.49	18.07	15.95	10.93
	中旬 2nd	10.15	7.60	10.69	15.05	10.41	17.39	16.00	10.02
	下旬 3rd	9.40	5.85	9.08	11.42	9.41	15.50	15.36	9.17
	月平均 Mean	10.25	7.08	10.52	13.79	10.60	16.98	15.77	10.04
二月 Feb.	上旬 1st	11.09	5.60	9.27	14.00	10.21	13.96	14.90	8.35
	中旬 2nd	10.15	6.69	9.57	14.45	9.49	15.69	15.65	8.24
	下旬 3	9.86	7.30	10.18	12.80	9.42	14.47	17.39	8.25
	月平均 Mean	10.37	6.53	9.68	13.75	9.71	14.37	15.98	8.28
三月 Mar.	上旬 1st	10.49	9.19	10.46	13.55	10.23	14.63	17.60	8.48
	中旬 2nd	11.12	9.55	11.14	11.93	10.65	14.79	17.30	8.73
	下旬 3rd	11.22	10.48	11.19	14.46	10.92	15.19	16.82	9.27
	月平均 Mean	10.27	9.74	10.93	13.31	10.23	14.87	17.24	8.83
四月 Apr.	上旬 1st	12.05	11.24	11.59	13.71	11.10	15.74	15.20	9.81
	中旬 2nd	12.89	12.01	12.19	13.12	12.86	16.17	15.42	10.50
	下旬 3rd	14.63	14.05	12.40	14.00	13.82	16.69	16.92	11.19
	月平均 Mean	13.19	12.43	12.06	13.61	12.59	16.20	15.86	10.49
五月 May	上旬 1st	15.48	15.87	13.35	14.36	14.50	17.05	17.29	12.23
	中旬 2nd	15.99	16.57	14.49	15.22	14.03	17.80	17.49	12.60
	下旬 3rd	15.97	17.39	15.35	16.08	15.40	18.55	16.65	13.92
	月平均 Mean	15.31	16.61	14.39	15.33	14.64	17.80	17.48	12.92
六月 Jun.	上旬 1st	17.50	19.14	13.45	17.37	15.93	20.30	19.13	14.15
	中旬 2nd	18.01	20.04	14.49	18.16	17.42	22.25	19.67	15.10
	下旬 3rd	19.48	21.52	14.97	17.94	17.82	23.39	20.15	16.20
	月平均 Mean	18.33	20.23	14.30	17.79	17.07	21.98	19.32	15.15
七月 Jul.	上旬 1st	20.73	22.09	17.71	22.58	17.78	25.56	22.26	17.01
	中旬 2nd	21.83	24.31	21.08	21.98	18.86	26.24	23.42	18.05
	下旬 3rd	23.03	24.96	23.97	23.62	19.02	24.55	25.91	18.66
	月平均 Mean	21.83	23.77	20.92	22.73	18.55	25.45	23.56	18.04
八月 Aug.	上旬 1st	23.82	26.91	25.41	25.48	19.86	26.31	26.89	19.55
	中旬 2nd	26.22	27.28	26.21	26.45	23.55	23.69	28.31	20.41
	下旬 3rd	25.99	27.51	26.32	25.97	25.16	23.55	25.03	21.05
	月平均 Mean	25.34	27.23	25.98	25.97	22.86	24.52	26.74	20.37
九月 Sep.	上旬 1st	25.07	26.58	25.81	24.67	22.59	24.05	25.25	20.62
	中旬 2nd	23.17	24.05	23.03	23.26	21.70	23.03	24.39	19.95
	下旬 3rd	22.29	23.29	21.71	23.71	21.77	22.04	25.43	19.22
	月平均 Mean	23.51	24.64	23.52	23.86	21.99	23.06	24.99	19.93
十月 Oct.	上旬 1st	20.48	21.41	22.57	22.04	21.50	21.20	23.68	18.12
	中旬 2nd	20.36	20.60	21.22	21.16	21.25	20.42	23.41	16.89
	下旬 3rd	20.08	19.39	20.67	20.04	20.80	19.53	21.35	15.89
	月平均 Mean	20.31	20.48	21.49	21.08	20.94	20.39	22.81	16.94
十一月 Nov.	上旬 1st	18.31	17.59	19.39	18.09	17.58	21.74	19.11	14.54
	中旬 2nd	16.58	15.82	17.95	17.11	16.40	21.37	20.82	13.94
	下旬 3rd	15.82	14.69	15.35	16.74	15.55	20.40	19.21	13.43
	月平均 Mean	16.90	16.03	17.56	17.31	16.51	21.17	19.71	14.05
十二月 Dec.	上旬 1st	14.25	11.96	14.52	15.78	14.06	15.68	18.55	12.57
	中旬 2nd	13.27	10.73	14.16	15.36	13.50	15.15	17.95	11.84
	下旬 3rd	11.50	8.50	12.33	14.35	12.55	14.44	16.97	10.97
	月平均 Mean	13.01	10.43	13.67	15.16	13.37	15.15	17.79	11.79
年 Year	年平均 Mean	16.56	16.26	16.25	17.81	15.75	19.32	19.77	13.93

⑯ 黑山島 Huksan-Do	⑰ 紅島 Hong-Do	⑱ 木浦 Mokpo	⑲ 群山 Kunsan	⑳ 於靑島 Ochoung-Do	㉑ 格列飛島 Kyoknyolbi-Do	㉒ 鳧島 Pu-Do	㉓ 仁川 Inchon
11.03	10.59	8.06	3.30	9.80	8.97	6.45	1.61
11.10	10.28	5.45	2.59	8.64	7.85	5.70	1.33
10.15	9.10	4.20	-0.16	7.11	5.87	3.09	0.76
10.78	9.99	5.92	2.02	8.85	7.56	5.08	1.25
9.58	7.75	5.45	1.87	5.68	4.62	3.05	1.33
9.35	7.93	5.14	2.10	4.94	5.08	3.05	1.95
9.00	7.93	6.23	3.25	4.32	5.51	3.01	2.73
9.32	7.87	5.62	2.41	4.98	5.07	3.04	1.99
9.00	7.95	8.21	5.80	4.94	5.47	4.35	3.48
8.88	7.96	8.39	7.26	5.32	5.84	4.60	4.18
9.30	8.31	9.40	8.20	6.41	6.20	4.77	7.73
9.07	8.08	8.66	7.10	5.55	5.78	4.42	5.13
9.59	8.24	9.65	8.98	6.74	6.55	6.00	7.00
10.11	8.62	10.82	9.91	7.62	7.72	6.40	9.54
10.61	9.23	13.28	14.12	8.44	8.23	8.05	12.11
10.11	8.69	11.25	11.01	7.60	7.33	6.82	9.55
10.08	10.06	15.49	15.31	10.71	9.64	10.40	13.40
12.13	10.68	15.31	15.76	12.44	10.05	11.35	14.46
13.28	11.13	16.57	18.40	13.85	10.34	13.13	16.46
12.27	10.62	15.79	16.49	12.11	10.01	11.25	14.77
14.59	13.88	18.15	20.34	12.94	15.15	14.85	17.51
16.36	15.24	18.76	21.50	13.74	17.25	16.25	18.53
17.94	16.58	20.82	23.70	14.66	18.22	16.85	20.27
16.31	15.22	19.44	21.80	13.81	16.74	15.98	18.80
20.13	20.39	23.16	24.45	16.04	19.28	18.60	21.84
21.83	20.88	24.32	26.19	17.92	20.03	19.93	24.87
23.50	22.24	25.47	28.30	21.40	21.04	21.16	25.10
21.83	20.74	24.32	26.26	18.45	20.12	19.89	23.94
23.97	23.65	26.04	29.65	23.24	24.39	23.05	26.98
24.44	24.18	25.68	29.63	23.84	24.97	24.40	26.78
24.13	24.03	25.42	27.05	24.24	25.21	24.00	25.74
24.13	24.94	25.71	28.77	23.77	24.86	23.82	26.51
23.41	23.93	24.62	25.57	23.60	23.78	23.78	24.56
21.77	22.88	23.15	23.52	22.60	22.48	23.25	23.39
20.86	22.64	22.39	22.40	21.66	21.80	22.45	22.79
22.01	22.48	23.38	23.86	22.62	22.69	23.16	23.58
19.72	18.82	20.16	19.16	20.98	20.54	21.03	20.92
18.37	18.79	19.24	18.91	20.62	19.58	20.50	19.87
17.50	16.67	18.13	17.88	19.93	19.34	19.31	18.19
18.35	17.74	19.78	18.65	20.51	19.82	20.20	19.64
16.30	17.73	15.98	14.80	18.86	18.62	17.92	15.84
15.10	13.26	14.15	12.74	17.36	17.39	16.05	13.91
13.26	15.14	13.31	10.67	15.66	14.48	13.58	11.78
15.10	16.71	14.48	12.75	16.99	16.83	15.85	13.84
13.73	13.84	9.47	6.47	14.10	11.59	11.78	8.71
12.62	13.02	8.77	5.45	12.45	10.23	8.96	6.36
13.48	11.75	7.42	4.01	11.18	9.53	6.98	4.20
13.27	12.83	8.32	5.31	12.58	10.45	9.21	6.42
15.21	14.58	15.22	14.70	13.99	13.95	13.23	13.79

2. 沿岸定地月別表面水比重
SURFACE WATER DENSITY

月 Month	旬 Ten day \ 観測地名 Station	① 注文津 Chumunjin	④ 浦項 Pohang	⑱ 木浦 Mokpo	㉓ 仁川 Inchon
一月 Jan.	上旬 1st	25.35	—	23.80	—
	中旬 2nd	25.42	—	23.63	—
	下旬 3rd	25.41	—	23.94	—
	月平均 Mean	25.39	—	23.79	—
二月 Feb.	上旬 1st	25.46	—	23.88	22.89
	中旬 2nd	25.41	—	24.29	22.86
	下旬 3rd	25.31	—	24.09	23.78
	月平均 Mean	25.41	—	24.09	23.18
三月 Mar.	上旬 1st	25.42	—	24.38	22.10
	中旬 2nd	25.34	—	24.42	22.37
	下旬 3rd	24.95	—	24.40	22.29
	月平均 Mean	25.23	—	24.40	22.25
四月 Apr.	上旬 1st	24.86	—	24.13	22.30
	中旬 2nd	25.20	—	24.62	22.16
	下旬 3rd	25.36	—	23.87	22.14
	月平均 Mean	25.14	—	24.21	22.20
五月 May	上旬 1st	25.30	—	24.29	21.99
	中旬 2nd	24.20	—	23.78	21.93
	下旬 3rd	24.47	—	22.41	21.90
	月平均 Mean	24.66	—	23 49	21.94
六月 Jun.	上旬 1st	24.91	—	22.70	22.59
	中旬 2nd	25.10	—	24.32	22.50
	下旬 3rd	24.93	—	24.35	22.52
	月平均 Mean	24.98	—	23.79	22.53
七月 Jul.	上旬 1st	23.28	—	18.02	16.90
	中旬 2nd	23.80	—	18.42	22.20
	下旬 3rd	25.08	—	20.80	22.70
	月平均 Mean	24.05		19.09	20.60
八月 Aug.	上旬 1st	25.02	—	20.83	23.05
	中旬 2nd	24.77	—	20.88	23.00
	下旬 3rd	24.49	—	21.10	22.76
	月平均 Mean	24.76	—	20.90	22.94
九月 Sep.	上旬 1st	24.49	—	20.43	22.60
	中旬 2nd	24.56	—	19.60	22.87
	下旬 3rd	23.77	—	18.62	23.21
	月平均 Mean	24.27	—	23.38	22.89
十月 Oct.	上旬 1st	24.23	—	21.49	22.55
	中旬 2nd	24.39	—	21.10	23.77
	下旬 3rd	24.56	—	23.01	23.77
	月平均 Mean	24.39	—	22.62	23.36
十一月 Nov.	上旬 1st	24.83	25.34	23.67	23.74
	中旬 2nd	24.78	25.37	23.62	23.91
	下旬 3rd	24.82	26.55	22.96	23.76
	月平均 Mean	24.81	25.75	23.09	23.80
十二月 Dec.	上旬 1st	24.70	26.23	—	23.46
	中旬 2nd	25.25	27.17	—	23.79
	下旬 3rd	25.51	27.28	--	23.85
	月平均 Mean	25.15	26.89	—	23.70

3. 港外定地海洋觀測成績

OCEANOGRAPHIC DATA OF THE FIXED STATIONS

觀測點 Station	① 迎日灣 (長鬐岬灯台 北 2.5浬) Youngil-Man (Lat.(N): 36° 07' Long.(E): 129° 34')										② 注文津港外(注文津灯台 南東 0.5浬) Chumunjin (Lat.(N): 37° 54' Long.(E): 128° 50')
觀測月日 Date	Apr. 19	Apr. 29	May 18	May 25	Jun. 8	Jun. 17	Jun. 28	Jul. 10	Aug. 9	Sep. 9	Sep. 20	Oct. 8
觀測時刻 Time	1110	1125	1120	1137	1315	1205	1100	1100	1600	1405	1430	1040
T °C 0	14.8	14.8	15.5	15.6	18.7	19.8	16.0	19.4	20.0	24.6	23.2	18.7
T °C 10	14.0	14.5	15.2	15.5	17.0	18.9	13.2	18.1	17.2	24.2	23.2	17.7
T °C 25	11.2	9.2	14.3	15.1	8.3	17.3	12.1	17.6	14.1	21.6	23.2	16.1
T °C Botm.	2.8	5.0	5.2	10.6	7.2	6.9	7.3	10.8	10.8	20.1	19.5	11.9
Sounding (m)	50	50	50	50	50	50	50	50	50	50	50	30
Wave	2	3	3	4	3	3	4	3	3	3	3	3
Swell	2	2	2	2	2	1	2	2	1	1	3	2
Transp.(m)	6	7	7	6	5	7	6	6	9	17	4.5	13.0
Wind	E.3	SSE.4	S.3	N.3	E.3	E.4	SSW.5	SE.3	SE.4	SE.3	SE.4	N.2
Cloud	Cb.10	Ci.1	Cc.10	Cb.10	Cs.2	Cu.2	Cb.10	Cs.2	Cs.9	Cu.3	Cu.1	Nb.1
Air Temp.(°C)	15.5	16.5	16.3	18.7	20.4	23.9	19.7	20.3	24.4	24.7	23.4	18.6
Weather	C	B	C	C	B	B	C	B	C	B	B	B

第　二　編

横斷定線海洋觀測成績

PART　Ⅱ

SECTIONAL OCEANOGRAPHIC OBSERVATIONS

1960

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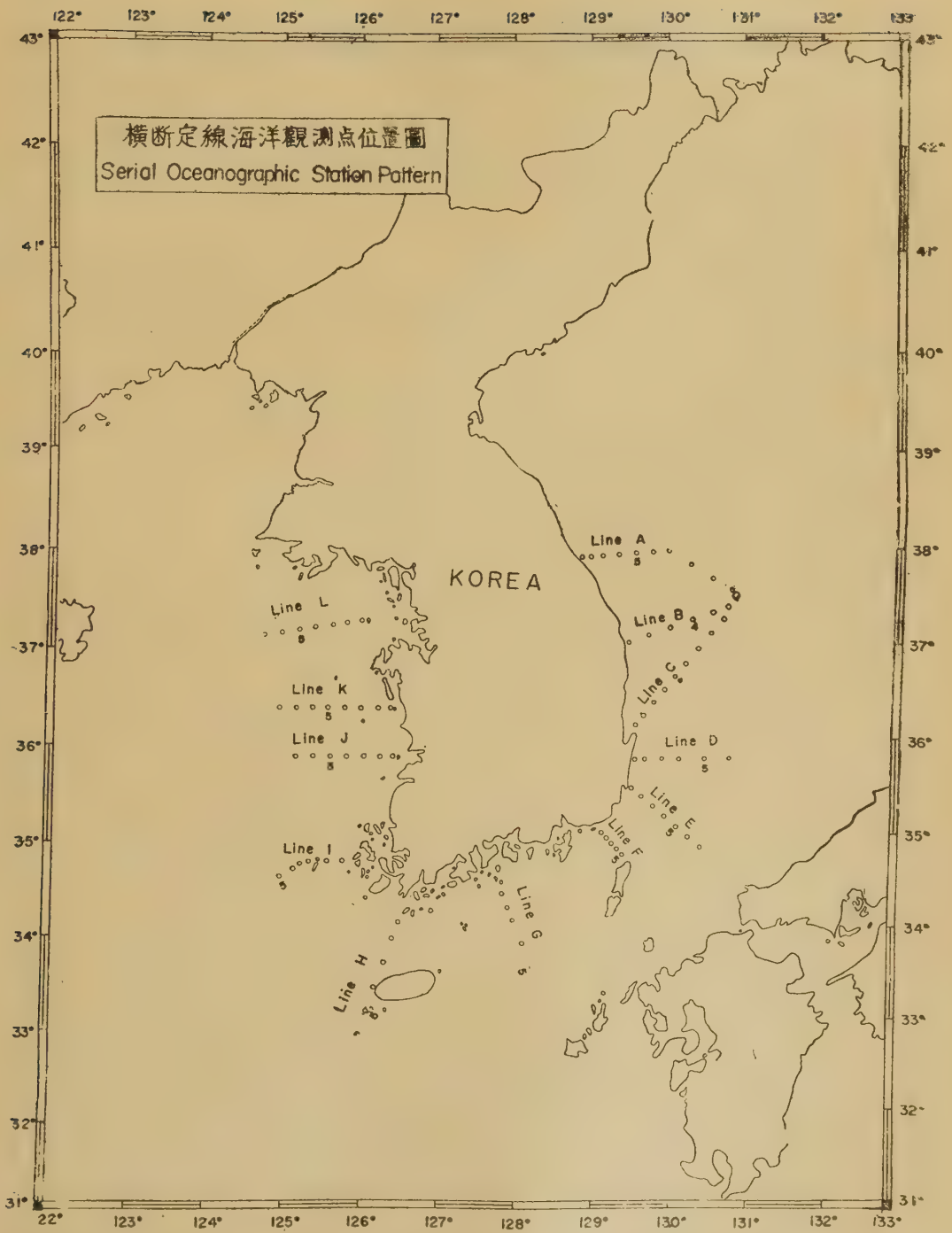
横断定線海洋観測点位置圖
Serial Oceanographic Station Pattern
KOREA
Line A
Line B
Line C
Line D
Line E
Line F
Line G
Line H
Line I
Line J
Line K
Line L
122°
123°
124°
125°
126°
127°
128°
129°
130°
131°
132°
133°
43°
42°
41°
40°
39°
38°
37°
36°
35°
34°
33°
32°
31°

橫斷定線海洋觀測點位置表

POSITION OF THE SERIAL OCEANOGRAPHIC STATOINS

Line \ Station / Position \ No.		1	2	3	4	5	6	7	8	9	10
Line A 江原線	Lat. (N)	37° 54′	37° 55′	37° 56′	37° 57′	37° 59′	38° 00′	38° 01′	37° 51′	37° 42′	37° 35′
	Long. (E)	128° 53′	128° 59′	129° 15′	129° 28′	129° 40′	129° 52′	130° 05′	130° 20′	130° 34′	130° 49′
〃 B 竹邊線	Lat. (N)	37° 05′	37° 09′	37° 14′	37° 19′	37° 24′	37° 27′				
	Long. (E)	129° 29′	129° 44′	130° 01′	130° 19′	130° 36′	130° 48′				
〃 C 慶北線	Lat. (N)	36° 07′	36° 15′	36° 23′	36° 31′	36° 39′	36° 46′	36° 58′	37° 10′	37° 22′	
	Long. (E)	129° 34′	129° 41′	129° 49′	129° 56′	130° 04′	130° 12′	130° 23′	130° 35′	130° 46′	
〃 D 甘浦線	Lat. (N)	35° 50′	35° 50′	35° 51′	35° 53′	35° 55′	35° 57′				
	Long. (E)	129° 33′	129° 39′	129° 51′	130° 09′	130° 27′	130° 45′				
〃 E U 線	Lat. (N)	35° 29′	35° 25′	35° 18′	35° 12′	35° 06′	34° 59′	34° 53′	34° 46′	34° 40′	
	Long. (E)	129° 27′	129° 34′	129° 43′	129° 53′	130° 02′	130° 11′	130° 20′	130° 30′	130° 39′	
〃 F B 線	Lat. (N)	35° 02′	34° 58′	34° 54′	34° 51′	34° 48′	34° 44′				
	Long. (E)	129° 07′	129° 11′	129° 15′	129° 19′	129° 22′	129° 26′				
〃 G 麗水線	Lat. (N)	34° 22′	34° 14′	34° 05′	33° 51′	33° 36′	33° 13′				
	Long. (E)	127° 50′	127° 53′	127° 57′	128° 03′	128° 10′	128° 20′				
〃 H 濟州線	Lat. (N)	33° 59′	33° 50′	33° 37′	33° 23′	33° 10′	32° 57′				
	Long. (E)	126° 32′	126° 26′	126° 17′	126° 09′	126° 00′	125° 52′				
〃 I 全南線	Lat. (N)	34° 43′	34° 43′	34° 43′	34° 40′	34° 35′	34° 31′	34° 29′			
	Long. (E)	125° 43′	125° 31′	125° 19′	125° 07′	124° 57′	124° 44′	124° 31′			
〃 J 全北線	Lat. (N)	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′	35° 51′
	Long. (E)	126° 17′	126° 07′	125° 55′	125° 42′	125° 43′	125° 18′	125° 06	124° 53′	124° 41′	124° 29′
〃 K 忠南線	Lat. (N)	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′	36° 20′
	Long. (E)	126° 28′	126° 18′	126° 07′	125° 54′	125° 41′	125° 29′	125° 17′	125° 05′	124° 52′	124° 40′
〃 L 京畿線	Lat. (N)	37° 10′	37° 09′	37° 08′	37° 07′	37° 10′	37° 05′	37° 04′	37° 03′	37° 02′	37° 01′
	Long. (E)	125° 52′	125° 39′	125° 27′	125° 14′	125° 02′	124° 48′	124° 37′	124° 25′	124° 13′	124° 00′

横斷定線海洋觀測成績

Serial Oceanographic Data of the Sectional Lines

1960

A. 江原線 海洋觀測成績

OCEANOGRAPHIC DATA, LINE A

Date		① March 1960							
Sta. No.		1	2	3	4	5	6	7	8
Day		19	19	23	23	23	23	23	23
Item	Time / Z(m)	0840	0940	1245	1440	1640	1840	2040	2325
T °C	0	10.70	10.80	12.40	12.70	11.30	12.80	11.30	11.30
	10	10.70	10.80	12.30	12.60	11.40	12.60	11.50	11.30
	25	8.20	10.60	12.30	12.50	10.90	12.50	11.00	11.00
	50	5.30	7.70	12.30	12.30	10.30	12.50	10.60	10.70
	100	—	2.30	9.20	10.20	8.00	10.70	10.20	10.20
	150	—	2.10	2.80	4.30	4.80	5.5	8.50	8.70
	200	—	0.70	1.30	1.80	1.90	—	—	—
	Botm.	4.30							
S ‰	0	34.15	34.60	34.76	34.76	34.61	34.78	34.45	34.63
	10	34.36	—	34.60	34.63	34.54	34.74	34.33	34.36
	25	34.16	34.49	34.60	34.60	34.87	34.78	34.36	34.36
	50	34.20	34.25	34.60	34.63	34.34	34.74	34.31	34.36
	100	—	34.02	34.11	34.40	34.27	34.42	34.33	34.36
	150	—	34.00	34.04	34.11	34.02	34.25	34.36	34.20
	200	—	34.04	34.07	34.00	34.02	—	—	—
	Botm.	34.04							
Sounding (m)		58	—	—	—	—	—	—	—
Transp. (m)		22	15	15	—	—	—	—	—
Color		3	4	3	3	4	—	—	—
Wave		3	5	4	3	4	—	—	—
Swell		1	2	2	2	2	2	2	3
Air Temp. (°C)		11.5	11.0	7.5	7.3	6.0	5.5	5.3	4.5
Air Press. (mm)		767	767	763	763	763.5	763.5	763	764
Wind		SE.3	S.5	N.3	NE.4	E.5	E.4	E.6	E.6
Cloud		Ns.3	Ns.3	Cu.10	Cu.10	Cu.10	—	—	—
Weather		BC	BC	R	R	C	—	—	—

Date		② April 1960								
Sta. No.		1	2	3	4	5	6	7	8	9	10
Day		15	15	15	15	15	15	15	16	16	18
Item	Time / Z(m)	1015	1110	1300	1520	1720	1920	2120	0010	0330	0615
T °C	0	12.70	12.80	12.20	14.20	12.50	11.40	11.30	11.40	13.60	12.40
	10	11.70	12.50	11.30	13.70	12.50	11.00	11.20	11.30	13.80	12.40
	25	6.80	7.80	9.40	13.20	12.20	11.00	11.10	11.00	13.40	11.80
	50	5.30	3.40	3.70	13.30	11.90	11.00	11.00	11.00	12.20	11.30
	100	—	1.60	1.70	11.20	10.50	10.60	10.80	10.90	10.80	11.10
	150	—	1.20	1.70	3.70	6.40	9.50	9.60	9.80	10.30	9.30
	200	—	0.80	1.50	1.80	3.50	6.50	7.30	7.50	9.50	6.00
	Botm.										
S ‰	0	34.60	34.49	34.67	34.72	34.58	34.49	34.49	34.58	34.83	34.67
	10	34.45	34.63	34.58	34.78	34.65	34.43	34.49	34.49	34.76	34.60
	25	34.24	34.38	34.49	34.78	34.60	34.49	34.49	34.49	34.76	34.52
	50	34.24	34.15	34.18	34.65	34.60	34.49	34.49	34.63	34.65	34.54
	100	—	34.11	34.09	34.52	34.49	34.45	34.49	34.49	34.52	34.49
	150	—	34.07	34.24	34.25	34.24	34.43	34.45	34.49	34.45	34.33
	200	—	34.13	34.20	34.05	34.05	34.24	34.15	34.15	34.67	34.15
	Botm.										
Sounding (m)		50	—	—	—	—	—	—	—	—	—
Transp. (m)		17	13	15	14	11	—	—	—	—	17.0
Color		4	4	4	4	4	—	—	—	—	4
Wave		3	2	2	3	3	—	—	—	—	2
Swell		1	1	1	1	1	1	1	1	1	1
Air Temp. (°C)		14.5	14.5	15.0	15.5	12.4	11.7	11.5	11.0	10.5	10.2
Air Press. (mm)		760.5	760.5	760	758	758	758	758	757	756	768.0
Wind		N.2	N.2	E.2	SE.3	SE.3	SE.3	SE.4	W.3	W.4	SW.1
Cloud		Cc.8	Cc.8	Ns.4	Ns.3	Ns.5	—	—	—	—	Ns.2
Weather		C	C	BC	BC	BC	—	—	—	—	B

Date		③ June 1960									
Sta. No.		1	2	3	4	5	6	7	8	9	10
Day		13	13	13	13	13	13	13	13	14	14
Item	Time / Z(m)	0745	0830	1020	1230	1435	1635	1840	2140	0050	0420
T °C	0	16.70	17.60	18.50	18.70	19.60	18.70	18.00	17.70	17.50	18.60
	10	16.50	17.40	18.40	18.50	17.50	17.30	17.50	17.20	17.10	18.00
	25	11.30	11.50	17.90	16.70	16.20	16.30	16.00	17.00	16.70	16.60
	50	7.60	6.80	14.80	15.10	14.00	14.00	14.20	14.60	14.90	15.00
	100	—	3.70	9.20	11.40	10.50	10.50	11.50	11.20	10.00	11.50
	150	—	3.20	2.60	7.00	7.20	8.30	9.40	8.90	3.50	7.60
	200	—	1.50	1.70	3.40	4.30	4.80	5.20	4.30	2.00	3.10
	Botm.										
S ‰	0	34.34	34.16	34.47	34.54	34.58	34.45	34.56	34.70	34.54	34.43
	10	34.70	34.29	34 49	34.51	34.52	34.52	34.58	34.60	34.58	34.51
	25	34.40	34.43	34.49	34.58	34.56	34.54	34.70	34.61	34.61	34.58
	50	34.25	34.24	34.58	34.65	34.61	34.54	34.61	34.63	34.70	34.67
	100	—	34.07	34.34	34.47	34.43	34.49	34.40	34.43	34.43	34.56
	150	—	34.05	34.11	34.22	34.11	34.31	34.45	34.31	34.00	34.25
	200	—	34.11	34.07	34.05	34.11	34.07	34.13	34.25	34.05	34.07
	Botm.										
Sounding (m)		45	—	—	—	—	—	—	—	—	—
Transp. (m)		13	14	19	21	23	17	16	—	—	—
Color		3	3	3	1	2	2	2	—	—	—
Wave		3	3	3	1	1	1	1	—	—	—
Swell		1	1	1	1	1	1	1	1	3	—
Air Temp. (°C)		16.7	18.0	20.0	21.5	25.0	19.5	17.3	17.5	17.0	17.0
Air Press. (mm)		754	755	754.5	754	754	755.5	754	754	754	755.5
Wind		S.3	S.2	NE.2	N.1	SE.1	SW.2	NW.2	S.3	S.1	E.1
Cloud		Cc.10	Cc.10	Sc.16	Sc.6	Cb.4	Cu.10	Cu.10	—	—	—
Weather		C	C	BC	BC	BC	C	R	—	—	R

Date		④ July 1960						
Sta. No.		1	2	3	4	5	6	7
Day		12	12	12	12	12	12	12
Item	Time / Z(m)	0545	0735	0900	1040	1220	1405	1550
T °C	0	19.90	20.30	20.80	21.20	21.00	21.80	22.40
	10	19.50	19.50	20.10	19.50	19.60	19.90	20.10
	25	15.70	18.20	18.30	17.30	17.30	18.70	16.60
	50	11.20	11.70	12.70	15.10	15.20	14.90	13.00
	100	—	6.80	6.90	8.00	8.70	8.50	7.90
	150	—	2.40	3.70	4.80	4.60	4.60	5.00
	200	—	1.70	2.90	2.80	2.60	2.30	2.80
	Botm.	9.70						
S ‰	0	34 29	34.47	34.04	34.07	34.05	34.11	34.00
	10	34.43	34.43	34.15	34.11	34.00	34.07	34.00
	25	34.60	34.58	34.20	34.29	34.54	34.27	32.59
	50	34.56	34.52	34.29	34.38	34.58	34.42	34.38
	100	—	34.16	33.91	34.05	34.11	34.11	34.02
	150	—	34.13	33.89	33.86	33.82	33.86	34.11
	200	—	33.95	33.86	33.95	33.86	33.98	33.82
	Botm.	34.42						
Sounding (m)		60	—	—	—	—	—	—
Transp. (m)		16	18	25	28	27	31	29
Color		3	2	2	2	2	2	2
Wave		1	1	1	1	0	0	1
Swell		1	1	1	1	0	0	1
Air Temp. (°C)		21.5	21.0	22.3	22.3	26.8	26.0	24.5
Air Press. (mm)		757.5	757.5	757.5	757.5	757.5	756.5	756
Wind		NW.1	W.1	NW.1	W.1	NW.1	S.1	S.1
Cloud		Cu.7	Cu.9	Cu.9	Ac.9	Ac.9	Ac.7	Ac.9
Weather		BC	C	C	C	C	BC	C

Date		⑤ September 1960									
Sta. No.		1	2	3	4	5	6	7	8	9	10
Day		3	3	3	3	3	3	3	3	2	2
Item	Time / Z(m)	1758	1425	1150	0940	0740	0550	0400	0135	2310	2045
T °C	0	23.90	22.70	22.50	24.30	24.50	25.30	24.50	25.00	24.50	25.50
	10	22.40	20.90	21.60	23.40	22.80	24.00	23.60	24.60	24.40	25.20
	25	19.60	13.90	17.30	15.10	21.00	21.90	22.05	21.45	20.30	21.40
	50	14.60	7.80	6.10	8.60	12.20	16.50	16.70	17.20	16.90	16.70
	100	—	3.90	2.20	7.20	6.80	12.70	15.70	16.10	16.35	14.70
	150	—	1.85	1.45	2.25	3.25	6.20	11.20	12.80	10.90	11.50
	200	—	1.70	1.20	1.70	2.80	3.90	6.90	7.20	5.70	9.10
	Botm.										
S ‰	0	32.63	33.39	33.22	32.45	32.97	32.72	33.35	33.59	33.24	32.77
	10	33.13	33.64	33.24	32.32	32.90	33.33	33.24	33.59	33.21	33.06
	25	33 48	34.09	33.96	34.27	33.21	33.64	33.93	33.82	33.62	33.68
	50	33.96	34.09	34.04	34.18	34.16	34.24	34.25	34.25	34.29	34.38
	100	—	33.93	34.00	34.02	34.05	34.29	34.43	34.33	34.38	34.51
	150	—	33.95	34.00	33.87	33.96	34.07	34.29	34.43	34.36	34.31
	200	—	33.96	34.00	33.98	34.00	34.00	34.11	34.15	34.11	34.25
	Botm.										
Sounding (m)		54	—	—	—	—	—	—	—	—	—
Transp. (m)		20.5	16.0	13.0	14.5	14.0	—	—	—	—	—
Color		3	3	3	3	3	—	—	—	—	—
Wave		1	1	2	2	2	3	—	—	—	—
Swell		1	1	1	1	1	2	2	2	2	1
Air Temp.(°C)		25.5	25.8	24.30	25.0	24.5	26.0	25.5	25.5	25.6	25.7
Air Press.(mm)		759	755	756	757.5	759.5	757	757	757	760.5	760.5
Wind		SE.1	SW.2	SW.2	SW.2	SW.2	SE.3	SE.4	SE.4	SW.4	SE.5
Cloud		Cb.5	As.9	Ac.10	Cu.10	Sc.9	Sc.10	—	—	—	—
Weather		BC	C	C	C	C	—	—	—	—	—

Date		⑥ October 1960									
Sta. No.		1	2	3	4	5	6	7	8	9	10
Day		18	18	18	18	18	18	18	18	18	19
Item	Time / Z(m)	0730	0840	1005	1200	1355	1600	1800	2100	2330	0200
T °C	0	18.40	18.80	19.00	20.90	21.60	20.90	20.80	20.90	20.80	20.70
	10	17.95	18.25	18.40	20.90	21.50	20.43	20.60	20.55	20.53	20.51
	25	17.90	15.55	17.20	17.20	21.50	20.40	20.60	20.42	20.40	20.40
	50	11.40	9.75	7.80	8.53	21.50	17.52	17.90	19.25	18.50	18.72
	100	—	3.20	2.65	3.40	7.50	14.75	14.30	14.80	11.70	14.23
	150	—	1.60	1.23	1.54	3.25	11.30	11.45	11.40	11.70	11.65
	200	—	1.15	0.95	1.02	1.20	3.15	6.65	6.30	7.30	8.00
	Botm.										
S ‰	0	32.59	32.77	32.99	33.08	34.18	33.22	34.43	33.21	33.21	32.86
	10	32.61	32.79	32.97	32.97	34.18	33.30	33.21	33.26	33.26	32.86
	25	32.86	34.24	34.18	33.69	34.13	33.21	33.28	33.21	34.27	33.06
	50	34.18	34.27	34.15	34.18	33.57	33.51	34.15	33.06	33.17	33.93
	100	—	33.95	33.95	34.00	34.36	34.61	34.40	34.49	34.49	33.36
	150	—	33.91	33.96	34.07	34.00	33.96	34.36	34.36	34.27	34.27
	200	—	34.04	34.00	34.07	33.95	33.21	34.18	34.09	34.00	34.11
	Botm.										
Sounding (m)		52	—	—	—	—	—	—	—	—	—
Transp. (m)		13	17	17	16	19	22	—	—	—	—
Color		4	4	3	3	3	3	—	—	—	—
Wave		2	2	2	3	2	2	—	—	—	—
Swell		1	1	1	1	1	1	1	1	1	1
Air Temp.(°C)		12.7	13.5	20.5	22.0	22.0	17.3	15.3	16.5	15.2	16.4
Air Press.(mm)		763	764	764.5	763	763	763.5	764	764	76 2	764
Wind		SW.2	SW.2	NW.2	NW.2	NW.2	N.1	E.1	NE.1	E.2	NE.2
Cloud		—	—	—	—	Ns.1	Ns.1	—	—	—	—
Weather		B	B	B	B	B	B	—	—	—	—

Date		⑦ December 1960				
Sta. No.		1	2	3	4	5
Day		15	15	15	15	15
Item	Time / Z(m)	1005	1100	1215	1310	1605
T °C	0	13.90	13.30	14.90	14.90	14.80
	10	13.70	12.00	13.90	15.00	14.35
	25	13.55	10.00	13.50	14.90	14.30
	50	4.70	5.35	11.25	14.75	14.02
	100	—	1.50	1.90	1.40	13.40
	150	—	1.05	1.23	2.85	8.93
	200	—	0.80	1.00	1.40	3.70
	Botm.	3.60				
S ‰	0	34.25	33.91	34.13	34.05	34.05
	10	31.89	34.27	34.20	33.75	34.05
	25	34.20	33.84	31.53	34.11	34.11
	50	34.24	34.11	34.45	34.11	34.11
	100	26.17	23.42	34.02	34.43	26.29
	150	—	34.46	29.76	34.11	33.22
	200	—	34.04	34.02	34.05	34.04
	Botm.					
Sounding (m)		62	—	—	—	—
Transp. (m)		13.0	11.0	—	—	—
Color		3	3	3	3	—
Wave		3	3	4	5	4
Swell		1	1	2	2	2
Air Temp.(°C)		8.5	—	—	—	—
Air Press.(mm)		769	—	—	—	—
Wind		NE.2	—	—	—	—
Cloud		Cu.10	Cu.10	Cc.10	Cc.5	Cc.8
Weather		C	C	C	BC	C

B. 竹邊線 海洋觀測成績

OCEANOGRAPHIC DATA, LINE B

Date		① March 1960					
Sta. No.		1	2	3	4	5	6
Day		26	25	25	25	25	25
Item	Time / Z(m)	0035	2130	1835	1605	1320	1130
T °C	0	12.10	13.40	11.20	11.30	11.40	11.60
	10	12.00	13.50	11.20	11.20	11.20	11.60
	25	11.40	13.50	11.20	11.20	11.20	11.50
	50	6.50	13.30	11.20	11.10	11.20	11.50
	100	1.50	8.80	11.00	11.10	11.20	11.20
	150	—	6.40	10.30	10.90	11.20	9.80
	200	—	—	—	—	8.00	—
	Botm.						
S ‰	0	34.67	34.76	34.27	34.09	34.42	34.79
	10	34.63	34.72	34 40	34.27	34.31	34.42
	25	34.60	34.72	34.45	34.31	34.27	34.42
	50	34.63	34.72	34.42	34.36	34.33	34.40
	100	34.04	34.29	34.42	34.42	34.40	34.33
	150	—	34.16	34.40	34.36	34.56	34.31
	200	—	—	—	—	34.34	—
	Botm.						
Sounding (m)		109	—	—	—	—	—
Transp. (m)		—	—	—	15.0	15.0	16.0
Color		—	—	—	3	3	3
Wave		—	—	—	4	4	4
Swell		2	2	2	2	2	2
Air Temp.(°C)		8.5	9.3	7.5	8.3	8.5	8.5
Air Press.(mm)		756	758	758.5	760	763	764
Wind		S.3	SE.3	SE.6	SE.5	SE.4	E.3
Cloud		—	—	Cu.10	Cu.10	Cc.10	Cc.10
Weather		—	R	R	R	C	C

Date		② April 1960					
Sta. No.		1	2	3	4	5	6
Day		18	18	18	18	18	18
Item	Time / Z(m)	2235	2020	1715	1410	1105	0910
T °C	0	12.80	14.70	11.70	12.30	12.40	12.90
	10	13.00	14.80	11.60	12.00	11.50	12.30
	25	12.50	14.30	11.40	11.40	11.50	11.40
	50	6.90	13.40	11.40	11.40	11.40	11.20
	100	2.10	11.60	11.30	11.30	11.40	11.20
	150	—	5.50	10.80	11.30	11.30	9.50
	200	—	3.80	6.80	10.20	10.00	6.50
	Botm.						
S ‰	0	34.69	35.01	34.42	34.49	34.40	34.67
	10	34.67	34.81	34.38	34.40	34.34	34.67
	25	34.76	34.85	34.52	34.33	34.40	34.36
	50	34.42	34.70	34.38	34.40	34.40	34.54
	100	34.15	34.58	34.40	34.40	34.40	34.49
	150	—	34.25	34.49	34.45	34.42	34.34
	200	—	35.08	34.33	34.40	34.38	34.24
	Botm.						
Sounding (m)		110	—	—	—	—	—
Transp. (m)		—	—	15.0	14.0	14.0	14.0
Color		—	—	4	3	3	4
Wave		—	—	4	3	1	2
Swell		2	2	1	1	1	1
Air Temp. (°C)		10.5	9.5	11.0	12.5	16.0	11.7
Air Press. (mm)		767	767	768	768	769	769
Wind		S.5	S.5	S.4	S.3	SW.1	SW.1
Cloud		—	—	Ns.1	Ci.1	Ns.1	Ns.1
Weather		—	—	B	B	B	B

Date		③ June 1960					
Sta. No.		1	2	3	4	5	6
Day		16	16	16	16	16	16
Item	Time / Z(m)	2135	1715	1355	1050	0745	0545
T °C	0	17.80	18.70	19.20	18.30	17.50	17.90
	10	17.80	13.70	17.90	18.00	15.70	18.00
	25	10.90	9.10	17.20	14.60	15.00	15.80
	50	5 70	4.50	15.00	11.50	11.60	14.30
	100	—	1.70	11.40	11.40	11.60	13.50
	150	—	1.00	8.50	11.20	11.30	11.00
	200	—	0.60	4.00	10.20	10.40	9.10
	Botm.	3.50					
S ‰	0	34.27	34.25	34.60	34.47	34.40	34.58
	10	34.25	34.29	34.61	34.51	34.34	34.56
	25	34.03	34.31	34.52	34.42	34.29	34.47
	50	34.16	34.07	34.67	34.40	34.36	34.52
	100	—	34 07	34.43	34.38	34.38	34.58
	150	—	34.05	34.34	34.43	34.40	34.56
	200	—	34.11	34.13	34.43	34.40	34.34
	Botm.	34.16					
Sounding (m)		105	—	—	—	—	—
Transp.(m)		—	16	21	18	19	19
Color		—	3	2	2	3	2
Wave		—	2	2	2	2	2
Swell		1	1	1	1	1	1
Air Temp.(°C)		17.7	20.0	21.5	—	16.5	17.2
Air Press.(mm)		758	758	758.5	760	760.5	760
Wind		NE.3	N.2	NE.2	NE.2	N.2	N.2
Cloud		—	Ci.1	Ci.1	Cc.7	Cu.2	Cu.10
Weather		—	B	B	BC	B	C

Date		④ August 1960				⑤ October 1960			
Sta. No.		1	2	3	4	1	2	3	4
Day		26	27	26	26	25	29	29	29
Item	Time / Z(m)	1815	1215	0710	0430	0655	0840	1115	1335
T °C	0	22.30	24.70	24.00	24.40	21.90	20.90	19.90	19.80
	10	18.20	18.90	24.00	23.95	21.60	20.90	19.70	19.70
	25	16.02	16.90	23.40	22.25	18.00	20.55	19.50	19.70
	50	8.02	15.20	17.40	16.80	11.15	20.10	19.50	16.90
	100	4.60	9.06	14.01	14.98	4.50	13.65	14.30	13.90
	150	—	3.06	12.06	11.98	—	3.20	12.45	12.05
	200	—	1.80	6.80	9.70	—	1.80	6.10	11.30
	Botm.								
S ‰	0	33.50	34.29	32.66	33.91	33.98	34.00	33.26	33.30
	10	33.89	33.84	—	33.89	33.89	33.95	33.21	33.30
	25	34.24	34.31	—	33.98	33.89	33.95	33.24	33.35
	50	34.24	34.25	34.51	34.31	—	34.02	33.24	34.24
	100	—	34.33	34.49	34.36	34.43	34.52	34.56	—
	150	—	34.05	34.36	34.36	34.20	34.20	34.38	34.61
	200	—	34.11	34.13	34.42	—	34.11	34.05	34.67
	Botm.	34.07							
Sounding (m)		115	—	—	—	10.8	—	—	—
Transp. (m)		7.0	6.0	21.0	—	15.5	17	17.5	14
Color		4	4	3	—	3	3	3	3
Wave		2	2	2	—	4	3	3	3
Swell		1	1	1	—	2	1	1	1
Air Temp. (°C)		25.0	28.0	25.0	23.0	17.5	14.7	16.0	17.7
Air Press. (mm)		757.5	759	758	756.5	764	770.5	769.5	769
Wind		S.2	SW.2	SW.1	SW.2	NE.4	SE.3	SW.3	SE.3
Cloud		Cb.1	Cb.5	Ci.2	—	Cu.10	Ac.9	Ac.9	Ac.9
Weather		B	BC	B	—	R	C	C	C

C. 慶北線 海洋觀測成績

OCEANOGRAPHIC DATA, LINE C

Date		① April 1960								
Sta. No.		1	2	3	4	5	6	7	8	9
Day		3	3	3	3	4	4	4	4	4
Item	Time / Z(m)	1605	1925	2100	2240	0025	0230	0435	0610	0835
T °C	0	14.50	12.60	11.90	12.00	11.70	11.70	11.70	11.60	12.00
	10	13.80	12.30	11.70	11.50	11.70	11.60	11.70	11.60	11.80
	25	13.20	12.20	11.60	11.50	11.60	11.60	11.70	11.60	11.80
	50	12.70	11.70	11.60	11.50	11.60	11.60	11.60	11.60	11.70
	100	—	11.20	11.50	11.50	11.60	11.60	11.60	11.60	10.90
	150	—	8.00	11.00	11.00	11.50	11.60	11.60	11.60	8.30
	200	—	3.60	8.00	10.00	11.50	11.50	11.60	11.60	7.50
	Botm.									
S ‰	0	34.61	34.38	34.27	34.42	34.52	34.54	34.40	34.49	34.36
	10	34.54	34.45	34.20	34.18	34.38	34.31	34.47	34.18	34.27
	25	34.56	34.36	34.18	34.29	32.50	34.22	34.45	34.15	34.22
	50	34.34	34.29	34.24	34.27	34.18	34.27	34.18	34.04	34.27
	100	—	34.45	34.27	34.29	34.15	34.27	34.33	34.27	34.18
	150	—	34.09	34.31	34.43	34.29	34.38	34.15	34.34	34.05
	200	—	33.91	34.09	34.16	34.52	34.22	34.52	34.56	34.00
	Botm.									
Sounding (m)		—	—	—	—	—	—	—	—	—
Transp. (m)		9	—	—	—	—	—	—	—	—
Color		5	—	—	—	—	—	—	—	—
Wave		4	5	5	4	3	3	3	2	2
Swell		2	2	2	2	2	2	2	2	1
Air Temp. (°C)		12.0	11.6	13.1	12.0	12.3	12.5	13.1	12.0	14.5
Air Press. (mm)		764	764	764	764	764	764	764	764	764
Wind		S.5	S.5	S.5	S.4	S.3	S.3	S.3	S.3	S.2
Cloud		Ns.9	Ns.10	Ns.10	Ns.10	Ns.10	Ns.10	Ns.8	Ns.10	Ns.9
Weather		C	C	C	C	C	C	C	C	C

Date		② April 1960								
Sta. No.		1	2	3	4	5	6	7	8	9
Day		24	24	24	24	24	24	24	24	24
Item	Time / Z(m)	0315	0442	0613	0755	0932	1132	1400	1628	1752
T °C	0	15.40	16.70	16.80	16.40	13.90	13.50	14.10	14.20	14.50
	10	14.64	16.15	—	15.44	13.31	12.51	13.52	13.57	13.80
	25	14.15	16.15	16.13	13.97	11.80	11.99	13.30	12.20	13.68
	50	12.72	15.18	15.88	12.29	11.60	11.80	12.10	11.79	12.70
	100	—	11.80	12.70	11.77	11.67	11.60	11.79	11.80	11.75
	150	—	5.62	7.39	8.99	11.49	11.67	11.70	11.57	10.60
	200	—	1.14	1.71	4.02	8.29	11.62	11.72	9.40	4.67
	300	—	—	—	—	2.40	5.32	5.0	1.70	1.46
	Botm.	3.05								
S ‰	0	33.93	34.81	34.83	34.81	34.45	34.34	34.38	34.51	34.49
	10	34.51	34.79	—	34.72	34.29	34.31	34.45	34.36	34.54
	25	34.74	34.78	34.79	34.74	34.36	34.36	34.54	34.36	34.54
	50	34.51	34.56	34.76	34.45	34.33	34.33	34.33	34.34	34.54
	100	—	34.56	34.52	34.49	34.36	34.31	34.36	34.36	34.36
	150	—	34.27	34.15	34.24	34.47	34.33	34.40	34.36	34.38
	200	—	34.05	33.96	34.07	34.18	34.36	34.42	34.27	34.02
	300	—	—	—	—	33.98	34.02	34.05	34.04	34.00
	Botm.	34.10								
Sounding (m)		88	—	—	—	—	—	—	—	—
Transp. (m)		—	—	—	3	—	5	7	7	9
Color		—	—	—	9.5	3	4	4	3	3
Wave		1	2	2	3	2	2	3	2	2
Swell		1	1	1	1	1	1	2	1	1
Air Temp.(°C)		16.0	16.5	17.6	17.4	15.5	16.5	16.4	15.2	17.0
Air Press.(mm)		—	—	—	772	—	—	—	—	—
Wind		SW.1	S.2	—	S.3	S.3	S.4	S.2	S.2	S.2
Cloud		—	Sc.3	—	St.7	St.10	St.8	St.10	St.10	St.10
Weather		B	BC	—	BC	C	C	C	C	C

Date		③ May 1960								
Sta. No.		1	2	3	4	5	6	7	8	9
Day		11	9	9	9	9	9	9	9	9
Item	Time / Z(m)	0720	2330	2150	2010	1830	1650	1430	1210	0945
T °C	0	14.10	14.60	14.30	14.10	14.20	14.10	14.70	15.50	15.30
	10	13.20	14.50	14.00	14.00	14.00	14.00	14.70	15.50	15.30
	25	13.00	14.30	13.60	12.70	13.00	13.50	14.00	14.60	15.10
	50	8.50	13.50	13.00	12.50	12.60	12.70	13.00	13.50	14.10
	100	—	12.60	12.40	12.30	12.50	12.70	12.50	12.10	13.20
	150	—	11.20	11.70	12.00	12.00	11.90	12.00	12.00	13.00
	200	—	6.70	8.70	11.10	11.30	11.50	11.70	12.00	12.50
	300	—	—	—	—	—	—	—	—	—
	Botm.	5.70								
S 0/00	0	34.49	34.49	34.69	34.51	34.43	34.43	34.70	34.67	34.70
	10	34.67	34.67	34.51	34.54	34.34	34.42	34.67	34.61	34.61
	25	34.11	34.69	34.58	34.34	34.34	34.34	34.49	34.49	34.83
	50	34.24	34.65	34.49	34.25	34.34	34.36	34.34	34.31	34.56
	100	—	34.58	34.38	34.29	34.31	34.29	34.34	34.36	34.43
	150	—	34.56	34.40	34.34	34.40	34.34	34.52	34.43	34.89
	200	—	34.15	34.31	34.22	34.36	34.45	34.45	34.52	34.58
	300	—	—	—	—	—	—	—	—	—
	Botm.									
Suonding (m)		53	—	—	—	—	—	—	—	—
Transp. (m)		6	—	—	—	—	—	—	—	—
Color		5	—	—	—	—	—	—	—	—
Wave		3	2	2	2	2	2	2	4	3
Swell		2	2	2	1	1	1	2	2	2
Air Temp.(°C)		14.5	14.0	14.3	14.5	15.0	16.5	16.0	15.5	17.2
Air Press.(mm)		764	763	763	763	763	763	763	764	764
Wind		W.3	NE.3	NE.3	NE.3	NE.2	N.3	N.3	N.5	N.3
Cloud		Ci.2	Ns.10	Ns.10	Ns.10	Ns.10	Ns.10	Ns.10	Ns.10	Ns.10
Weather		B	R	R	R	C	C	C	C	C

Date	④ August – September 1960								
Sta. No.	1	2	3	4	5	6	7	8	9
Day	31	31	31	31	31	31	31	1	1
Item: T °C / Time: Z(m)	0940	1110	1300	1510	1720	1920	2220	0110	0300
0	24.40	24.90	26.40	26.40	24.50	25.70	25.00	24.50	24.20
10	24.00	24.80	26.10	25.00	23.30	23.90	24.40	23.90	22.45
25	22.02	20.80	25.60	23.70	22.20	22.00	20.80	22.55	21.70
50	19.90	13.20	24.30	17.40	17.20	16.80	17.90	17.80	19.50
100	—	4.90	6.01	14.70	14.60	12.95	15.05	13.30	12.50
150	—	2.02	2.30	3.00	7.35	11.60	11.90	12.10	11.70
200	—	1.80	—	2.80	3.10	6.50	9.60	11.10	10.20
Botm.	15.80	—	2.00	—	—	—	—	—	—
0	32.39	32.66	32.86	32.77	32.94	33.53	33.33	33.28	34.24
10	32.39	32.59	32.88	32.74	33.03	33.75	33.33	33.40	33.69
25	32.86	33.39	32.83	32.83	33.19	33.86	34.11	33.77	33.78
50	33.21	34.33	34.33	34.42	34.24	34.51	33.91	34.52	34.20
100	33.80	34.09	34.15	34.40	34.60	34.45	34.31	34.33	34.33
150	—	—	34.05	34.07	34.24	34.36	34.38	34.38	34.38
200	—	34.05	—	34.05	34.05	34.24	34.38	34.27	34.38
Botm.									
Sounding (m)	63	—	195	—	—	—	—	—	—
Transp.(m)	8.5	14.0	25.0	19.0	21.0	—	—	—	—
Color	4	3	2	3	3	—	—	—	—
Wave	2	2	1	1	1	—	—	—	—
Swell	1	1	1	1	1	1	1	1	1
Air Temp.(°C)	26.7	26.3	28.0	29.5	26.3	25.0	24.1	24.5	25.0
Air Press.(mm)	758	757.5	757.5	758.0	759.0	758.5	758.5	759.0	759.0
Wind	NW.2	NE.2	NE.1	E.1	E.1	SE.1	SE.1	SE.1	SE.1
Cloud	Cc.1	Ci.1	Ci.1	Ns.1	Cu.1	Cu.2	—	—	—
Weather	B	B	B	B	B	B	—	—	—

Date		⑤ October 1960								
Sta. No.		1	2	3	4	5	6	7	8	9
Day		23	22	21	21	21	21	21	21	21
Item	Time / Z(m)	0910	0030	2300	2105	1910	1720	1435	1200	0915
T °C	0	20.80	21.70	21.70	20.90	20.60	20.70	20.80	20.60	20.80
	10	20.75	21.30	21.10	21.10	20.50	20.30	20.30	20.25	20.20
	25	20.10	21.20	21.05	21.00	20.05	20.30	20.25	19.95	20.20
	50	—	15.50	16.02	20.85	20.03	20.25	18.05	18.12	17.90
	100	—	—	3.15	14.95	16.00	15.20	13.40	14.00	14.20
	150	—	—	2.45	8.15	12.90	12.85	12.15	12.30	11.75
	200	—	—	1.60	1.80	2.95	9.95	11.70	11.80	8.70
	Botm.	14.85								
S ‰	0	33.17	33.64	33.51	32.90	33.01	34.02	33.04	33.12	33.06
	10	33.30	33.60	33.39	32.94	33.03	33.12	33.04	32.97	33.04
	25	33.46	33.57	33.44	33.33	33.24	33.19	33.06	33.08	—
	50	—	34.45	34.52	33 71	32.99	33.21	34.13	34.18	34.15
	100	—	—	34.13	34.52	34.47	34.58	34.47	34.40	34.33
	150	—	—	34.13	34.34	34.47	34.52	34.43	34.24	34.27
	200	—	—	34.07	34.07	34.13	34.56	34.45	34.22	34.11
	Botm.	34.13								
Sounding (m)		53	—	—	—	—	—	—	—	—
Transp.(m)		12	—	—	—	—	—	22	23	23
Color		4	—	—	—	—	—	3	3	3
Wave		2	—	—	—	—	3	3	3	4
Swell		1	2	1	1	1	1	1	1	1
Air Temp.(°C)		17.2	17.5	16.7	17.0	17.2	18.0	21.5	19.5	17.7
Air Press.(mm)		771	768.5	768.5	768.5	768.5	768.0	768.0	768.5	769.5
Wind		W.2	NE.4	NE.3	NE.4	NE.4	NE.3	NE.3	NE.3	NE.3
Cloud		Cc.4	—	—	—	—	Cb.1	Cb.3	Cb.2	Cb.2
Weather		BC	—	—	—	—	B	B	B	B

D. 甘浦線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE D

Date		① April 1960					
Sta. No.		1	2	3	4	5	6
Day		22	22	22	22	22	22
Item	Time / Z(m)	1225	0930	0745	0435	0150	2320
T °C	0	16.10	16.30	14.80	15.00	16.00	14.00
	10	15.08	15.24	13.72	14.22	15.15	13.14
	25	14.41	15.21	13.20	14.50	14.93	12.23
	50	—	14.65	12.50	14.15	13.88	12.10
	100	—	13.39	8.78	11.89	11.33	10.70
	150	—	—	7.95	3.72	7.17	13.90
	200	—	—	2.56	1.11	1.55	10.01
	Botm.	12.30	6.61	—	—	—	—
S ‰	0	34.81	34.81	34.63	34.78	34.98	34.56
	10	34.72	34.69	34.63	34.72	34.85	34.78
	25	34.72	34.72	34.63	34.78	34.87	34.79
	50	—	34.72	34.56	34.81	34.36	34.58
	100	—	34.51	34.27	34.51	34.36	34.54
	150	—	—	34.11	34.16	34.13	34.60
	200	—	—	34.11	34.02	34.02	34.54
	Botm.	34.56	34.24	—	—	—	—
Sounding (m)		50	140	—	—	—	—
Transp. (m)		10	12	13	—	—	—
Color		3	4	4	4	—	—
Wave		1	1	2	3	—	—
Swell		1	1	1	2	—	—
Air Temp.(°C)		17.9	18.0	18.0	15.5	15.5	15.5
Air Press.(mm)		—	—	—	—	—	—
Wind		SW.1	—	SW.2	E.3	—	—
Cloud		0	—	0	0	—	—
Weather		B	B	B	B	—	—

E. U 線 海 洋 觀 測 成 績

OCEANOGRAPHIC DATA, LINE E

Date		① February 1960		② February 1960				
Sta. No.		1	2	1	2	3	4	5
Day		19	19	22	22	23	23	23
Item	Time / Z(m)	0635	0735	1700	1800	0840	1035	1200
T °C	0	13.00	12.50	14.40	14.00	14.50	13.80	13.20
	10	12.89	12.60	13.47	12.90	13.70	13.30	13.40
	25	12.92	12.92	13.08	13.92	13.82	13.36	13.64
	50	12.38	13.00	12.80	12.40	13.88	9.99	13.60
	75	—	12.95	—	13.92	13.69	13.40	13.70
	100	—	13.06	—	—	13.49	13.33	13.68
	Botm.	11.20	11.70	12.80	13.40	13.30	12.00	13.50
S ‰	0	34.76	34.83	34.79	34.92	34.83	34.83	35.30
	10	34.61	34.60	34.72	34.83	34.78	34.69	34.74
	25	34.60	34.63	34.74	34.56	34.83	34.70	34.74
	50	34.56	34.65	34.70	34.76	34.74	34.74	34.74
	75	—	34.65	—	34.74	34.74	34.79	34.72
	100	—	34.61	—	—	34.69	34.74	34.76
	Botm.	34.58	34.65	34.65	34.74	34.65	34.47	34.67
Sounding (m)		67	115	76	105	132	155	138
Transp.(m)		—	7	4	—	17	19	11
Color		—	6	4	—	7	8	7
Wave		2	2	2	3	2	3	4
Swell		2	2	2	3	2	3	3
Air Temp.(°C)		4.0	5.0	9.5	9.0	6.0	11.0	8.5
Air Press.(mm)		770	770	772	772	772	772	771
Wind		SW.2	SW.2	W.2	S.3	W.2	W.3	W.4
Cloud		—	—	0	0	0	0	0
Weather		B	B	B	B	B	B	B

Date		③ March 1960						
Sta. No.		1	2	3	4	5	6	7
Day		14	14	14	14	14	14	14
Item	Time / Z(m)	0600	0715	0900	1030	1210	1350	1530
T °C	0	12.80	14.00	15.40	14.50	15.20	15.40	15.50
	10	12.38	13.40	14.38	14.30	14.40	14.30	13.90
	25	12.24	13.79	15.28	14.07	14.42	14.93	14.99
	50	—	12.09	15.32	14.08	14.38	14.92	14.99
	75	—	12.01	15.24	14.00	14.20	14.89	13.90
	Botm.	12.29	12.01	15.28	12.56	13.68	14.57	14.78
S ‰	0	34.72	34.85	34.92	34.85	34.89	34.90	34.94
	10	34.63	34.79	34.81	34.72	34.79	34.91	34.85
	25	34.69	34.78	34.85	34.72	34.81	34.81	34.79
	50	—	34.54	34.79	34.79	34.72	34.85	34.85
	75	—	34.70	34.76	34.79	34.78	34.85	34.85
	Botm.	34.58	34.51	34.83	34.49	34.67	34.79	34.79
Sounding (m)		55	112	148	153	138	131	132
Transp.(m)		—	10	10	10	7	12	10
Color		—	4	5	5	5	5	5
Wave		2	2	2	2	2	2	2
Swell		2	2	2	2	2	2	2
Air Temp.(°C)		2.0	5.0	3.8	8.0	11.5	—	8.9
Air Press.(mm)		762	761	760	759	758	757	756
Wind		N.3	NNW.2	NNW.3	NNW.2	NNW.2	NNW.2	NNW.2
Cloud		Cs.4	Ci.6	Ci.3	Cc.3	Cc.9	Cc.4	Ac.9
Weather		BC	BC	BC	C	C	BC	C

Date		④ April 1960				
Sta. No.		1	2	3	4	5
Day		13	13	13	13	13
Item	Time / Z(m)	0620	0712	0850	1025	1200
T °C	0	14.00	16.50	16.50	16.00	15.50
	10	13.35	15.69	15.81	15.95	15.05
	25	13.38	15.75	15.78	15.72	14.65
	50	12.85	15.68	15.70	14.75	14.58
	100	—	14.41	15.45	14.57	13.89
	Botm.	12.68	13.58	8.85	13.28	13.48
S ‰	0	34.76	34.87	34.85	34.81	34.58
	10	34.58	34.85	34.85	34.81	34.81
	25	34.60	34.81	34.87	34.81	34.78
	50	34.58	34.78	34.85	34.79	34.83
	100	—	34.78	34.81	34.76	34.76
	Botm.	34.60	34.70	34.34	34.69	34.74
Sounding (m)		68	122	144	148	131
Transp. (m)		2	11	12	14	13
Color		8	5	4	4	4
Wave		6	6	6	6	6
Swell		3	3	3	3	3
Air Temp.(°C)		12.0	13.5	13.8	14.0	14.1
Air Press.(mm)		750	750	750	751	750
Wind		NE.4	E.4	E.4	E.5	E.10
Cloud		Sc.10	Sc.10	Cs.10	Ci.10	Cc.5
Weather		C	C	C	C	C

Date		⑤ May 1960					
Sta. No.		1	2	3	4	5	6
Day		22	22	22	22	22	22
Item	Time / Z(m)	0510	0652	1027	1215	1435	1605
T °C	0	15.50	15.70	16.00	16.70	16.70	16.50
	10	15.02	15.30	15.70	16.08	16.11	15.40
	25	14.29	15.30	15.60	15.95	15.80	15.55
	50	14.01	14.25	15.40	15.80	15.46	15.42
	100	—	14.70	15.30	15.18	15.30	15.80
	150	—	13.30	15.10	14.85	14.63	15.00
	Botm.	11.70	9.21	13.61	9.87	14.29	14.77
S ‰	0	34.70	34.90	34.92	34.99	34.69	34.99
	10	34.70	34.83	34.87	34.83	34.99	34.89
	25	34.81	34.83	34.99	34.87	34.92	43.90
	50	34.83	34.79	34.92	34.92	34.90	34.87
	100	—	34.76	34.83	34.94	34.83	34.92
	150	—	34.85	34.92	34.96	34.96	34.92
	Botm.	34.58	34.76	34.83	34.61	34.08	34.94
Sounding (m)		70	124	152	145	128	127
Transp.(m)		—	4	5	13	12.5	13
Color		—	6	4	4	5	5
Wave		2	2	3	3	3	3
Swell		1	1	2	2	2	3
Air Temp.(°C)		12.0	15.5	14.6	14.5	18.5	18.0
Air press.(mm)		—	—	—	—	—	—
Wind		N.2	S.2	S.3	S.3	S.3	S.3
Cloud		Sc.3	St.1	Cu.3	Cu.3	0	Cu.3
Weather		BC	B	BC	BC	B	BC

Date		⑥ June 1960					
Sta. No.		1	2	3	4	5	6
Day		18	19	19	19	19	19
Item	Time / Z(m)	1755	0706	0830	1000	1130	1305
T °C	0	18.60	20.30	20.20	20.50	20.40	20.80
	10	17.75	19.48	19.43	19.75	19.55	20.32
	25	17.30	17.10	18.58	19.70	19.40	21.31
	50	11.37	15.80	17.27	18.52	19.04	18.03
	100	—	15.14	15.42	16.89	15.97	16.67
	150	—	—	18.41	18.70	14.18	18.50
	Botm.	7.92	14.97	17.40	10.30	7.50	9.79
S ‰	0	34.40	34.42	34.34	34.25	34.40	34.43
	10	34.34	34.13	35.45	34.25	34.34	34.43
	25	34.61	34.40	34.43	34.34	34.73	34.52
	50	34.52	34.61	34.58	34.56	34.52	34.52
	100	—	—	34.43	34.58	34.67	34.67
	150	—	34.61	34.45	34.34	34.98	34.67
	Botm.	34.38	34.61	34.31	34.34	34.45	34.43
Sounding (m)		69	110	150	155	135	126
Transp. (m)		4	13	13	13	13	11
Color		9	4	4	4	4	4
Wave		2	2	2	2	2	1
Swell		2	2	2	2	2	1
Air Temp.(°C)		19.3	19.5	20.1	20.5	23.4	22.2
Air Press.(mm)		—	—	—	—	—	—
Wind		SW.3	W.3	W.3	SW.2	SW.3	S.2
Cloud		Cs.9	As.10	As.10	As.10	As.10	As.10
Weather		C	C	R	C	C	C

F. B 線 海洋觀測成績

OCEANOGRAPHIC DATA, LINE F

Date		① January 1960		② February 1960			
Sta. No.		1	2	1	2	3	4
Day		29	29	18	18	18	18
Item	Time / Z(m)	0816	0905	0912	1007	1050	1150
T °C	0	12.50	13.00	13.20	13.40	14.20	15.20
	10	13.00	14.10	12.80	13.61	14.18	14.49
	25	13.00	14.80	12.80	13.70	14.19	14.48
	50	12.73	13.50	12.60	13.70	13.69	14.28
	100	—	—	—	—	11.59	14.08
	150	—	—	—	—	—	13.69
	200	—	—	—	—	—	12.37
	Botm.	12.56	13.30	12.00	12.40	12.30	12.60
S ‰	0	34.69	34.72	34.56	34.89	34.83	34.83
	10	34.54	34.70	34.60	34.69	34.74	34.83
	25	34.54	34.72	34.56	34.69	34.78	34.67
	50	34.42	34.54	34.61	34.74	34.72	34.74
	100	—	—	—	—	34.34	34.76
	150	—	—	—	—	—	34.47
	200	—	—	—	—	—	34.49
	Botm.	34.42	34.56	34.56	34.49	34.36	34.25
Sounding (m)		85	100	85	105	120	210
Transp. (m)		5	12	7	8	13	15
Color		4	3	7	6	7	6
Wave		2	3	3	3	3	3
Swell		2	2	2	2	2	3
Air Temp. (°C)		—	—	6.5	9.3	7.5	7.5
Air Press. (mm)		774	774	772	773	771	771
Wind		W.3	W.3	N.3	W.3	W.3	W.3
Cloud		0	0	0	0	0	0
Weather		B	B	B	B	B	B

Date		③ March 1960				
Sta. No.		1	2	3	4	5
Day		15	15	15	14	14
Item	Time / Z(m)	0310	0210	0025	2315	2235
T °C	0	12.50	13.50	15.20	15.00	15.60
	10	12.60	13.36	12.98	15.40	15.22
	25	12.69	13.50	15.42	15.50	15.52
	50	12.62	12.92	15.20	14.48	15.57
	100	—	—	13.40	15.40	15.50
	150	—	—	—	14.43	—
	200	—	—	—	14.20	—
	Botm.	6.20	12.98	11.62	11.31	14.21
S ‰	0	34.74	34.92	34.79	34.92	34.98
	10	34.67	34.79	34.83	34.89	34.89
	25	34.76	34.79	34.89	34.87	34.92
	50	34.65	34.85	34.85	34.89	34.89
	100	—	—	34.89	34.85	34.89
	150	—	—	—	34.70	—
	200	—	—	—	34.89	—
	Botm.	34.70	34.94	34.49	34.78	34.92
Sounding (m)		80	104	149	222	150
Transp. (m)		—	—	—	—	—
Color		—	—	—	—	—
Wave		1	1	2	1	1
Swell		1	1	1	1	1
Air Temp.(°C)		—	—	—	—	—
Air Press.(mm)		758	757	757.5	757	757
Wind		NW.2	NW.2	NW.3	NW.2	NW.2
Cloud		0	0	0	0	0
Weather		B	B	B	B	B

Date		④ April 1960				
Sta. No.		1	2	3	4	5
Day		9	9	9	9	9
Item	Time / Z(m)	0823	0918	1015	1120	1240
T °C	0	14.00	16.00	16.50	16.50	17.00
	10	13.51	15.38	15.83	16.08	16.35
	25	13.28	14.68	16.72	15.98	16.06
	50	12.95	14.25	15.67	15.92	15.88
	100	—	—	14.89	15.86	15.72
	150	—	—	—	15.81	—
	200	—	—	—	14.88	—
	Botm.	10.50	13.48	13.85	12.52	15.65
S ‰	0	32.85	34.89	34.94	34.87	34.94
	10	34.38	34.78	34.85	34.90	34.85
	25	34.58	34.72	34.85	34.05	34.90
	50	34.52	34.72	34.81	34.81	34.81
	100	—	—	34.78	34.83	34.85
	150	—	—	—	34.90	—
	200	—	—	—	34.72	—
	Botm.	34.58	34.60	34.67	34.63	34.90
Sounding (m)		81	98	122	225	148
Transp. (m)		5	—	5	5	14
Color		8	8	4	4	4
Wave		2	2	2	3	4
Swell		1	1	1	2	3
Air Temp. (°C)		14.7	14.9	15.6	16.3	17.3
Air Press. (mm)		754	754	754	755	755
Wind		SW.2	SW.2	W.2	W.3	W.3
Cloud		0	0	St.1	St.3	St.3
Weather		B	B	B	BC	BC

Date		⑤ June 1960				
Sta. No.		1	2	3	4	5
Day		18	18	18	18	18
Item	Time / Z(m)	0935	1030	1140	1230	1330
T °C	0	19.70	20.30	21.70	20.70	20.50
	10	18.49	19.19	20.90	19.70	20.70
	25	18.06	19.10	19.50	18.93	19.28
	50	16.82	16.79	16.09	19.80	17.78
	100	—	—	16.00	15.47	17.13
	150	—	—	—	15.00	—
	200	—	—	—	15.40	—
	Botm.	17.70	15.17	15.08	15.06	15.51
S 0/00	0	33.86	34.13	34.29	34.20	34.34
	10	34.07	34.11	34.20	34.11	34.11
	25	34.11	34.11	34.15	34.16	34.11
	50	34.20	34.25	34.34	34.29	34.31
	100	—	—	34.02	34.45	34.47
	150	—	—	—	34.40	—
	200	—	—	—	34.42	—
	Botm.	34.49	34.45	34.47	34.45	34.45
Sounding (m)		83	103	130	225	150
Transp. (m)		8	14	14	14	15
Color		6	3	4	4	4
Wave		2	2	2	2	2
Swell		2	2	2	2	2
Air Temp. (°C)		20.0	—	20.2	20.3	~~2.20~~ 20.0
Air Press. (mm)		—	—	—	—	—
Wind		S.2	WSW.2	W.3	W.3	SW.3
Cloud		Cs.7	Ac.9	As.10	Ac.10	As.10
Weather		BC	C	C	C	C

Date		⑥ November 1960				
Sta. No.		1	2	3	4	5
Day		1	1	1	1	1
Item	Time / Z(m)	0301	0850	0947	1048	1145
T °C	0	21.10	21.50	21.90	22.60	22.60
	10	21.10	21.09	21.10	21.21	21.62
	25	19.92	21.14	21.89	22.04	22.30
	50	16.10	20.02	21.97	18.00	22.08
	100	—	—	15.45	16.98	18.40
	150	—	—	—	11.58	—
	200	—	—	—	7.83	—
	Botm.	15.30	17.92	12.76	7.63	17.80
S ‰	0	33.91	33.89	34.15	34.18	34.18
	10	33.80	33.91	34.13	34.18	34.09
	25	33.71	33.89	34.15	34 04	34.09
	50	34.27	33.80	34.13	34.09	34.18
	100	—	—	34.15	34.63	34.65
	150	—	—	—	34.33	—
	200	—	—	—	34.27	—
	Botm.	34.49	33.96	34.45	34.25	34.58
Sounding (m)		85	108	130	220	135
Transp.(m)		12	16	13	18.5	15.2
Color		4	4	5	5	5
Wave		1	2	2	2	2
Swell		1	1	1	1	1
Air Temp.(°C)		17.0	18.3	20.5	21.3	21.0
Air Press.(mm)		772.5	772.5	773	773	773
Wind		N.1	N.2	N.2	N.2	N.2
Cloud		Cc.1	Cc.1	Cc.7	Cc.7	Cc.6
Weather		B	B	BC	BC	BC

G. 麗水線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE G

Date		① May 1960			
Sta. No.		1	2	3	4
Day		23	23	23	23
Item	Time / Z(m)	1008	1130	1400	1710
T °C	0	16.20	16.00	16.90	18.10
	10	15.20	15.30	16.30	17.20
	25	13.90	14.50	16.50	16.20
	50	13.90	14.80	15.40	17.40
	Botm.	13.80	14.90	15.30	15.70
S ‰	0	33.69	33.91	34.36	34.51
	10	33.86	33.89	34.40	34.47
	25	34.00	34.18	34.52	34.43
	50	34.11	34.34	34.52	34.52
	Botm.	34.13	34.43	34.52	34.56
Sounding (m)		59	62	77	93
Transp. (m)		7	7	5	11
Color		—	—	—	—
Wave		1	1	2	3
Swell		1	1	2	3
Air Temp. (°C)		18.0	18.5	17.4	16.0
Air Press. (mm)		749.9	749.8	749.1	747.8
Wind		NE.2	ENE.2	ENE.2	ENE.4
Cloud		Cu.9	Cu.10	Cu.5	Cu.6
Weather		C	C	BC	BC

Date		② June 1960			
Sta. No.		1	2	3	4
Day		18	18	18	18
Item	Time / Z(m)	0540	0725	0910	1131
T °C	0	17.50	18.30	19.40	20.30
	10	18.70	18.70	19.30	20.10
	25	18.70	17.50	18.60	19.30
	50	16.30	16.10	16.10	16.90
	Botm.	16.20	15.80	15.50	15.50
S ‰	0	34.07	34.13	34.31	34.07
	10	34.07	34.27	34.33	34.00
	25	34.40	34.20	34.31	34.22
	50	34.43	34.49	34.49	34.58
	Botm.	34.49	34.58	34.58	34.54
Sounding (m)		58	63	82	99
Transp. (m)		5	10	18	19
Color		—	—	—	—
Wave		1	1	1	0
Swell		1	1	1	0
Air Temp. (°C)		18.5	19.7	19.0	20.5
Air Press.(mm)		751.3	750.0	750.0	750.0
Wind		S.1	SW.1	SW.2	SW.1
Cloud		Cs.7	Cs.3	Cs.10	Cs.9
Weather		BC	BC	C	C

Date		③ July 1960			
Sta. No.		1	2	3	4
Day		15	15	15	15
Item	Time / Z(m)	0610	0718	0855	1435
T °C	0	22.30	23.50	24.50	26.20
	10	20.60	20.30	21.00	23.00
	25	17.90	17.50	17.40	18.80
	50	—	15.40	15.60	17.70
	Botm.	15.60	15.30	15.40	15.50
S ‰	0	33.42	33.46	31.67	31.13
	10	33.62	33.84	33.57	33.40
	25	34.00	33.98	33.96	33.87
	50	—	34.42	34.43	34.43
	Botm.	34.36	34.42	34.52	34.40
Sounding (m)		53	63	81	95
Transp. (m)		7	13	26	23
Color		—	—	—	—
Wave		—	—	1	2
Swell		1	1	1	2
Air Temp. (°C)		24.0	24.0	24.8	27.3
Air Press. (mm)		755.8	755.5	755.5	755.0
Wind		SW. 1	SW. 1	SW. 2	SW. 3
Cloud		Cs. 10	Cs. 10	Cs. 10	Cs. 7
Weather		C	C	C	BC

H. 濟州線 海洋觀測成績

OCEANOGRAPHIC DATA, LINE H

Date		① April 1960					
Sta. No.		1	2	3	4	5	6
Day		13	13	7	7	7	8
Item	Time / Z(m)	1124	1060	1920	2152	2354	0145
T °C	0	13.00	14.00	13.00	16.50	16.00	15.80
	10	14.30	14.00	12.50	16.40	16.50	16.00
	25	14.30	14.00	12.60	16.40	15.80	16.30
	50	14.50	14.00	13.00	—	15.00	16.50
	100	—	—	13.00	—	—	—
	Botm.	14.50	14.00	13.00	16.00	16.50	16.80
S ‰	0	34.27	34.45	34.27	34.76	34.79	34.76
	10	34.22	34.43	34.24	34.79	34.74	34.70
	25	34.18	34.47	33.93	34.76	34.74	34.67
	50	34.18	34.43	34.18	—	34.74	34.74
	100	—	—	34.24	—	—	—
	Botm.	34.18	34.47	34.27	34.74	34.76	34.72
Sounding (m)		77	88	155	60	83	93
Transp.(m)		4	5	—	—	—	—
Color		—	—	—	—	—	—
Wave		3	3	3	3	3	4
Swell		2	2	1	2	2	3
Air Temp.(°C)		14.0	13.5	10.0	9.5	10.5	10.5
Air Press.(mm)		758	758	768	768	768	768
Wind		E.4	E.4	NE.3	NE.2	NE.3	NE.4
Cloud		Ns.10	Ns.10	Ci.2	Ci.3	Ci.2	Ci.2
Weather		R	R	B	BC	B	B

Date		② May 1960					
Sta. No.		1	2	3	4	5	6
D		8	8	9	9	9	9
Item	Time / Z(m)	2032	2215	0010	0210	0358	0550
T °C	0	13.50	16.20	17.70	17.20	17.60	17.70
	10	13.50	16.10	17.60	17.20	17.50	18.00
	25	12.50	16.00	17.20	17.50	17.40	18.00
	50	—	15.00	16.80	17.00	17.40	17.50
	100	—	—	16.20	—	—	—
	Botm.	13.50	10.00	16.80	17.00	17.00	17.00
S ‰	0	33.77	34.51	34.85	34.72	34.54	34.58
	10	33.69	34.49	34.74	34.70	34.52	34.45
	25	34.04	34.47	34.74	34.76	34.56	34.42
	50	—	34.56	34.93	34.74	34.45	34.33
	100	—	—	34.78	—	—	—
	Botm.	34.02	34.56	34.69	34.54	34.58	34.63
Sounding (m)		61	82	162	79	115	113
Transp. (m)		—	—	—	—	—	—
Color		—	—	—	—	—	—
Wave		0	1	1	1	1	2
Swell		1	1	1	1	1	1
Air Temp. (°C)		14.0	16.5	16.8	17.0	16.7	16.5
Air Press. (mm)		762	762	762	762	761	761
Wind		S.2	S.2	SE.3	SE.3	NE.3	N.3
Cloud		St.2	St.10	St.9	St.8	Ns.10	St.10
Weather		B	C	C	C	R	C

Date		③ September 1960					
Sta. No.		1	2	3	4	5	6
Day		2	2	2	3	3	4
Item	Time / Z(m)	1010	1140	1425	1320	1530	0625
T °C	0	24.50	26.20	25.70	25.80	26.80	26.20
	10	24.00	25.60	25.30	25.10	25.30	25.50
	25	22.50	23.40	22.90	24.80	23.80	24.50
	50	—	15.60	15.40	20.50	18.80	16.40
	100	—	15.30	15.90	—	—	—
	Botm.	15.20	15.30	14.90	16.70	17.40	18.80
S ‰	0	31.71	31.40	31.67	31.74	31.56	30.52
	10	31.65	31.56	31.69	31.74	31.56	30.77
	25	32.14	31.89	31.56	31.74	31.92	31.83
	50	—	34.16	33.98	33.06	33.51	34.07
	100	—	—	34.29	—	—	—
	Botm.	33.95	34.15	34.31	34.04	33.78	34.11
Sounding (m)		56	74	151	81	96	106
Transp.(m)		10	11	9	9	8	10
Color		—	—	—	—	—	—
Wave		0	0	1	3	3	3
Swell		1	1	1	2	2	2
Air Temp.(°C)		26.8	27.4	25.7	27.8	27.7	25.4
Air Press.(mm)		760	759	758	756	755	756
Wind		E.2	E.2	SE.1	W.4	W.4	S/W.3
Cloud		—	—	—	—	—	—
Weather		B	R	R	BC	B	C

I. 全南線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE I

Date		① January 1960				
Sta. No.		1	2	3	4	5
Day		20	20	21	25	25
Item	Time / Z(m)	1330	1520	0950	0540	0720
T °C	0	8.00	9.50	9.50	9.50	10.20
	10	9.50	9.50	9.50	9.80	10.20
	25	8.50	9.50	9.57	9.80	10.10
	50	—	—	9.50	10.00	10.10
	Botm.	8.50	9.00	9.10	10.00	10.00
S ‰	0	33.12	33.06	32.97	33.03	33.13
	10	33.06	33.03	32.97	33.06	33.13
	25	33.06	33.03	32.97	33.03	32.94
	50	—	32.97	33.06	33.08	33.15
	Botm.	33.06	32.95	32.45	33.06	33.06
Sounding (m)		32	80	80	78	87
Transp. (m)		3	2	2	4	3
Color		—	—	—	—	—
Wave		3	3	2	1	1
Swell		2	2	2	1	1
Air Temp. (°C)		6.5	6.6	6.0	5.3	6.9
Air Press. (mm)		769	769	772	775	775
Wind		NW.3	NW.3	NW.2	NW.2	NW.2
Cloud		St.6	St.7	St.3	St.3	St.3
Weather		BC	BC	B	B	B

Date		② April 1960				
Sta. No.		1	2	3	4	5
Day		5	5	6	7	7
Item	Time / Z(m)	2100	2250	0000	0615	0740
T °C	0	8.60	8.50	8.80	8.50	8.60
	10	8.70	8.40	8.60	8.30	8.70
	25	8.00	8.20	8.30	8.30	8.40
	50	—	8.10	9.00	8.10	8.50
	Botm.	9.50	8.10	8.20	8.50	8.60
S ‰	0	32.74	32.30	32.68	32.92	32.97
	10	32.86	32.25	32.63	32.86	32.95
	25	32.85	32.39	32.63	32.90	32.90
	50	—	32.59	32.68	32.86	32.95
	Botm.	32.79	32.70	32.81	32.86	32.95
Sounding (m)		33	83	92	91	93
Transp. (m)		—	—	—	—	—
Color		—	—	—	—	—
Wave		2	2	2	3	4
Swell		1	1	1	2	3
Air Temp. (°C)		7.0	8.4	8.3	8.5	8.0
Air Press. (mm)		766	766	766	769	769
Wind		SW/S.3	SW/S.3	SW/S.3	NW.3	NW.3
Cloud		Ci.3	0	Ci.2	Cc.2	Ci.1
Weather		BC	B	B	B	B

Date		③ May 1960				
Sta. No.		1	2	3	4	5
Day		10	10	10	9	9
Item	Time / Z(m)	1250	1123	0940	1932	1855
T °C	0	11.50	11.20	10.20	11.50	10.70
	10	11.00	11.10	10.20	13.20	13.00
	25	10.80	10.00	10.60	13.50	13.50
	50	—	9.60	9.50	13.00	14.50
	Botm.	10.70	9.00	10.00	12.00	17.50
S ‰	0	32.94	32.59	32.79	32.86	32.85
	10	32.81	32.57	32.76	32.99	32.85
	25	32.79	32.61	32.76	32.03	32.79
	50	—	32.72	32.77	—	33.21
	Botm.	32.79	32.66	32.81	33.01	33.17
Sounding (m)		35	80	90	81	83
Transp. (m)		0.7	4	6	8	5
Color		—	—	—	—	—
Wave		2	2	2	2	2
Swell		2	2	3	3	3
Air Temp. (°C)		14.0	12.0	14.0	10.5	11.5
Air Press. (mm)		762	761	760	760	761
Wind		N.3	N.3	N.2	NE.3	NE.3
Cloud		Ac.1	Ac.3	Cu.9	Ns.10	Ns.10
Weather		B	BC	C	R	R

Date		④ August 1960				
Sta. No.		1	2	3	4	5
Day		13	13	12	12	12
Item	Time / Z(m)	0920	0848	1620	1450	1340
T °C	0	24.30	23.50	22.30	25.80	27.60
	10	21.30	21.30	20.20	21.70	24.30
	25	19.60	19.40	18.00	19.30	21.20
	50	—	—	16.20	16.20	16.80
	Botm.	19.40	19.10	14.60	15.40	12.90
S ‰	0	33.06	32.94	33.73	32.54	32.32
	10	32.99	32.99	32.65	32.54	32.63
	25	32.94	32.90	33.03	32.65	32.59
	50	—	—	33.01	33.03	32.99
	Botm.	32.99	32.88	32.88	32.82	32.99
Sounding (m)		47	77	94	81	82
Transp.(m)		4	4	5	12	10
Color		—	—	—	—	—
Wave		1	1	1	1	2
Swell		1	1	2	2	2
Air Temp.(°C)		25.6	25.6	27.7	29.6	31.2
Air Press.(mm)		756	756	754	754	755
Wind		N.1	NW.1	N.2	N.2	N.2
Cloud		Cs.2	Cs.3	Cc.4	Cc.2	Cc.2
Weather		B	BC	BC	B	B

Date		⑤ September 1960				
Sta. No.		1	2	3	4	5
Day		8	8	7	7	7
Item	Time / Z(m)	1030	0915	1015	1150	1243
T °C	0	21.60	21.50	23.70	21.80	24.40
	10	20.20	20.60	22.80	21.50	24.00
	25	19.80	19.60	21.80	21.00	23.00
	50	—	18.70	18.80	15.00	17.00
	Botm.	20.50	19.30	17.50	19.30	23.40
S ‰	0	32.27	32.25	31.69	32.03	31.62
	10	32.36	32.27	31.89	32.02	31.56
	25	32.32	32.32	32.00	31.98	31.62
	50	—	32.29	32.32	32.68	32.72
	Botm.	32.30	32.36	32.54	32.12	31.74
Sounding (m)		50	81	81	84	83
Transp. (m)		3	3	8	7	11
Color		—	—	—	—	—
Wave		4	3	3	3	3
Swell		1	1	1	1	1
Air Temp.(°C)		22.3	22.5	24.4	22.2	22.5
Air Press.(mm)		755	755	754	754	754
Wind		N.5	N.3	N.3	N.4	N.3
Cloud		Cc.6	Cc.9	Cc.10	Cc.9	Cc.9
Weather		BC	C	C	C	C

J. 全北線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE J

Date		① April 1960					
Sta. No.		1	2	3	4	5	6
Day		2	2	3	3	3	3
Item	Time / Z(m)	1130	1250	0700	0900	1100	1300
T °C	0	8.00	7.90	6.80	7.30	7.10	7.50
	10	7.00	6.90	6.50	6.50	6.60	6.80
	25	6.90	6.40	6.40	6.50	6.60	6.70
	50	—	—	—	—	6.50	6.70
	Botm.	6.80	6.30	6.40	6.40	6.50	6.60
S ‰	0	32.16	32.16	—	32.39	32.52	32.54
	10	31.89	32.09	32.09	32.25	32.30	32.39
	25	31.92	32.07	32.07	32.20	32.29	32.38
	50	—	—	—	—	32.27	32.39
	Botm.	31.98	32.09	32.11	32.23	32.27	32.39
Sounding (m)		43	38	51	58	72	80
Transp. (m)		2	2	3	4	6	7
Color		—	—	—	—	—	—
Wave		1	2	2	2	2	2
Swell		2	2	2	2	2	2
Air Temp.(°C)		6.7	7.0	7.0	8.2	7.4	8.1
Air Press.(mm)		—	—	—	—	—	—
Wind		NW.1	NW.2	S.2	S.2	SW.3	S.3
Clou		0	Ci.1	Ci.2	Ci.3	0	0
Weather		B	B	B	B	B	B

Date		② August 1960					
Sta. No.		1	2	3	4	5	6
Day		6	6	6	6	6	6
Item	Time / Z(m)	0610	0725	0848	0950	1100	1220
T °C	0	25.30	25.00	26.50	26.40	26.40	26.50
	10	23.90	23.40	23.50	26.20	25.50	26.00
	25	22.50	20.90	19.00	16.40	17.40	23.30
	50	—	—	—	—	15.40	13.10
	Botm.	22.40	20.50	18.20	16.40	15.30	13.00
S ‰	0	31.92	32.47	32.43	32.38	32.16	32.30
	10	31.89	32.16	—	32.23	32.29	32.20
	25	31.89	32.23	—	32.90	32.90	32.94
	50	—	—	—	—	32.85	32 90
	Botm.	32.00	32.29	32.76	32.90	32.90	32.95
Sounding (m)		37.2	35.2	49.5	53.3	68.4	75.3
Transp.(m)		6.0	6.0	15.0	16.0	14.0	16.0
Color		—	—	—	—	—	—
Wave		1	1	1	1	1	1
Swell		2	2	2	2	2	2
Air Temp.(°C)		26.2	26.3	26.8	27.2	27.3	27.5
Air Press.(mm)		—	—	—	—	—	—
Wind		S.2	S.2	S.1	S.1	S.2	SE.1
Cloud		Ci.1	Ci.1	Ci.1	Ci.1	Ci.5	Ci.2
Weather		B	B	B	B	BC	B

Date		③ September 1960					
Sta. No.		1	2	3	4	5	6
Day		6	6	6	6	6	6
Item	Time / Z(m)	0540	0720	0920	1120	1320	1520
T °C	0	24.00	23.40	23.90	24.40	24.60	24.50
	10	23.90	23.40	22.60	24.00	24.30	24.50
	25	23.90	22.90	22.40	21.10	21.70	24.00
	50	—	—	—	—	16.20	19.50
	Botm.	23.60	22.80	22.40	19.10	16.00	15.40
S ‰	0	32.09	32.47	34.09	32.18	32.09	32.14
	10	32.09	32.45	32.47	32.56	32.05	32.11
	25	32.14	32.54	32.54	32.54	32.54	32.20
	50	—	—	—	—	32.25	32.50
	Botm.	32.21	32.45	32.50	32.54	32.54	32.54
Sounding (m)		45.3	37.0	50.5	54.4	63.0	73.8
Transp. (m)		3.0	3.5	8.0	13.0	15.0	14.0
Color		—	—	—	—	—	—
Wave		0	0	0	1	2	2
Swell		1	1	1	1	1	1
Air Temp (°C)		23.5	23.5	23.7	24.5	24.6	23.5
Air Press (mm)		—	—	—	—	—	—
Wind		0	NE.1	NE.1	SE.2	SE.2	SE.3
Cloud		Cb.10	Cb.10	Cb.10	Cb.10	Cb.10	Cb.10
Weather		C	C	C	C	C	C

K. 忠南線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE K

Date		① April 1960					
Sta. No.		1	2	3	4	5	6
Day		7	7	7	8	8	8
Item	Time / Z(m)	0720	0900	1100	0800	1000	1200
T °C	0	6.00	6.50	6.50	6.60	7.10	7.50
	10	7.30	—	6.40	6.50	6.60	6.80
	25	—	—	—	6.50	6.60	6.70
	50	—	—	—	—	6.50	6.70
	Botm.	7.30	6.70	6.40	6.20	6.50	6.60
S ‰	0	33.08	34.05	31.99	32.52	32.27	32.20
	10	31 89	—	31.92	32.09	32.12	32.16
	25	—	—	—	32.12	32.14	32.20
	50	—	—	—	—	32.16	32.18
	Botm.	31.89	31.89	31.94	32.16	32.16	32.25
Sounding (m)		27	13	27	50	55	55
Transp.(m)		1	1	2	4	5	6
Color		—	—	—	—	—	—
Wave		1	2	3	0	1	0
Swell		1	2	2	1	1	1
Air Temp.(°C)		5.1	5.9	6.0	7.0	6.8	6.9
Air Press.(mm)		—	—	—	—	—	—
Wind		N.3	NW.3	NW.3	N.1	SE.1	S.1
Cloud		0	0	0	0	0	0
Weather		B	B	B	B	B	B

Date		② August 1960					
Sta. No.		1	2	3	4	5	6
Day		16	16	16	16	16	16
Item	Time / Z(m)	0645	0758	0900	1030	1148	1310
T °C	0	26.10	25.80	28.00	27.80	27.60	27.00
	10	26.00	—	24.50	25.60	26.30	26.70
	25	25.50	—	—	14.90	16.50	13.90
	50	—	—	—	13.50	—	12.80
	Botm.	25.50	25.60	22.40	13.40	12.60	12.70
S ‰	0	31.22	31.02	31.74	32.54	32.43	33.24
	10	30.95	—	31.58	32.43	32.47	32.14
	25	30.99	—	—	32.63	32.50	32.63
	50	—	—	—	32.63	—	32.66
	Botm.	31.00	31.38	31.64	32.72	32.77	32.66
Sounding (m)		—	—	—	—	—	—
Transp. (m)		—	—	—	—	—	—
Color		—	—	—	—	—	—
Wave		—	—	—	—	—	—
Swell		—	—	—	—	—	—
Air Temp.(°C)		—	—	—	—	—	—
Air Press.(mm)		—	—	—	—	—	—
Wind		—	—	—	—	—	—
Cloud		—	—	—	—	—	—
Weather		—	—	—	—	—	—

Date		③ September 1960					
Sta. No.		1	2	3	4	5	6
Day		9	9	9	9	9	9
Item	Time / Z(m)	1900	1730	1530	1330	1130	0930
T °C	0	23.80	23.80	24.00	22.20	22.30	22.90
	10	23.50	—	22.60	22.00	22.20	22.70
	25	23.50	—	—	21.90	22.00	20.40
	50	—	—	—	—	—	—
	Botm.	23.40	22.80	22.50	20.10	19.70	19.20
S ‰	0	31.87	32.32	32.09	32.39	32.36	32.34
	10	31.76	—	32.07	32.27	32.36	32.36
	25	31.82	—	—	32.32	32.36	32.36
	50	—	—	—	—	—	32.45
	Botm.	31.82	31.89	32.12	32.34	32.39	32.50
Sounding (m)		28.4	13.6	26.3	52.8	52.0	57.0
Transp.(m)		2.5	2.5	3.0	9.2	10.3	14.9
Color		—	—	—	—	—	—
Wave		0	0	2	2	2	3
Swell		1	1	2	2	2	2
Air Temp.(°C)		23.7	23.5	23.7	23.5	24.1	23.5
Air Press.(mm)		—	—	—	—	—	—
Wind		NW.2	NW.2	NW.3	NW.3	NW.3	NW.3
Cloud		0	Ci.1	Ci.2	Ci.3	Ci.3	Ci.3
Weather		B	B	B	BC	BC	BC

L. 京畿線 海洋觀測成績
OCEANOGRAPHIC DATA, LINE L

Date		① April 1960						
Sta. No.		1	2	3	4	5	6	7
Day		3	3	3	3	2	2	2
Item	Time / Z(m)	1155	1310	1415	1530	2310	2145	2030
T °C	0	6.20	6.30	6.30	6.30	5.90	5.50	6.00
	10	6.20	6.30	6.20	6.30	5.90	5.90	6.00
	25	—	—	—	6.20	5.80	5.90	5.80
	50	—	—	—	—	—	5.60	5.90
	Botm.	5.90	6.20	6.20	6.10	6.00	6.00	6.00
S ‰	0	32.48	32.63	—	33.26	—	32.07	32.36
	10	33.40	33.10	32.83	32.07	32.63	31.55	32.27
	25	—	—	—	32.68	32.41	32.02	32.29
	50	—	—	—	—	—	32.25	31.74
	Botm.	32.85	32.72	32.07	32.99	32.02	32.11	34.05
Sounding (m)		35	23	30	40	55	67	70
Transp.(m)		3	3	1.5	2	—	—	—
Color		10	10	7	7	—	—	—
Wave		4	4	4	3	4	3	1
Swell		2	2	2	2	2	2	2
Air Temp.(°C)		9.0	9.0	9.0	8.9	5.7	5.5	5.5
Air Press.(mm)		773	773	770.5	771	770	770	770
Wind		S.4	S.4	S.4	S.4	S.5	S.5	S.5
Cloud		1	1	1	1	1	1	1
Weather		B	B	B	B	B	B	B

浮游生物調査表

Plankton Data

1960

浮游生物調査

本場 및 各支場에서 每月 海洋觀測時에 採集한 資料를 檢索調査한 結果는 다음 表와 같다.

1) 採集網

橫斷定線海洋觀測點에서는 從來 使用하여 오던 垂直採集網 ㊥ 代身에 NAKAI'S Plankton Net (㊦B型)를 썼고 鎭海灣에서는 從前대로 垂直採集網 ㊥을 使用하였다.

NAKAI'S Plankton Net (㊦B型)의 規格은 口徑 45cm 全長 100cm 이며 採集網의 圓筒形 上部 (15cm)는 帆布(Canvas) 製이고 圓錐形의 下部 (85cm)는 合成樹脂加工을한 Müller Gaze GG 54 (網目 0.33 mm)이다.

2) 調査方法

採集網은 水深이 50 m 以上인 곳에서는 水面下 50 m 에서 表面까지 約 1 分間에 引揚하여 採集하였고 水深이 50 m 未滿인 곳에서는 底面에서 表面까지 引揚 採集 하였다. 採集한 資料는 3~5%의 "홀마링" 으로 固定하여 陸上 實驗室에 運搬하였고 採集된 試料의 定量은 大型인 水母類와 甲殼類를 除去한 다음 沈澱管에서 24時間 不動沈澱시켜 그 沈澱된 量을 測定하였다.

浮游生物의 檢索方法은 沈澱된 試料 1cc를 떠서 다음 表와 같이 稀釋하여 顯微鏡下에서 檢索하였다.

Plankton Collections

The plankton samples were collected at the hydrographic stations of the sectional lines in the adjacent seas of Korea. The results of examinations are the following tables.

1) Plankton Net.

The NAKAI'S Plankton Nets (MARUTOKU NET "B") used for vertical haul were employed at the hydrographic stations during the year. The gauge of the plankton net is as follows: Mouth diameter and the total length of the net are 45 cm and 100 cm respectively. The shape of the front part of the net, which is made with canvas is cylindrical, and the length is 15 cm. The rear is the bag of the net, which is made with Müller Gaze No. GG 54. The shape of the rear is conical, and the length is 85 cm.

2) Method of sampling and of examinations.

The nets were pulled up from the depth of 50 meters to the surface for one minute at each station. The plankton samples were settled with 3~5 percent Formalin, and carried back to the laboratory for examination.

For guantitative analyses of the plankton samples the precipitation method was applied. The settled samples which were exclude jellyfishes and crustacea of large sizes were resettled in the precipitation tubes for 24 hours in the laboratory, and volume of each resettled sample was measured. The 1 cc of the resettled samples was transfered into the dilution bottle, and diluted with 100 cc of sea water. The 1 cc of the diluted samples was taken out by the stemple pipette, and the plankton species were counted under the microscope. On the following tables the numbers of the species are shown in percent for the plankton composition.

A. 江原線 浮游生物調査成績 ㊖

PLANKTON DATA. LINE A (VERTICAL HAUL) 1960

Month	March							
Station	1	2	3	4	5	6	7	8
Date	19	19	23	23	23	23	23	23
Time	0850	1005	1313	1500	1655	1850	2054	2303
Volume(cc)	3	2.5	5	6	32	20	6	23
Dilution	30:1	45:1	40:1	40:1	45:1	20:1	20:1	40:1
Zooplankton Organisms	37	38	33	98	36	23	8	7
Phytoplankton Organisms			17				23	9
ZOOPLANKTON								
Copepoda sp	3	3	2	1				
Copepoda larva				1		1		
Calanus sp	13	27	27		23		1	
Paracalanus sp					9	8	1	
Eucalanus sp	1							
Oithona plumifera				3			5	1
Corycaeus sp				3				
Centropages sp	1		1		2			
Metridia sp					2			
Hyperia sp						1		
Sagitta sp				6				
Oikopleura sp						1		
Fish larva	1							
Euphausia sp				12				
Salpa sp								+
Hydromedusa sp								
Oncaea venusta			1					4
Copepoda egg	9	8	2	1			1	
Calanus helgolandicus	7			64		10		2
Vibilia sp						2		
Calauus vulgaris	2							
Amphipoda sp				7				
Coelenterata sp	+	+						
Sphaerozoum sp			+					+
PHYTOPLANKTON								
Chaetoceors spp			17					
Coscinodiscus sp							23	9
Chaetoceros borealis								
Ch. didymus								
Ch. decipiens								
Ch. coarctatus								
Ch. densus								
Ch. Frichei								

Month	April										
Station	1	2	3	4	5	6	7	8	9	10	11
Date	15	15	15	15	15	15	15	16	16	16	18
Time	1025	1123	1310	1535	1727	1932	2130	0018	0345	0624	1115
Volume (cc)	2	2	4	11	4	2	2	19	6	6	4
Dilution	2:1	5:1	2:1	2:1	2:1	40:1	30:1	10:1	40:1	2:1	2:1
Zooplankton Organisms	48	37	192	195	55	78	61	61	45	104	170
Phytoplankton Organisms					5	35	3	23		16	
ZOOPLANKTON											
Copepoda sp	1	2	2		3	3	7	3	7	4	3
Copepoda larva		2				1	1				
Calanus sp			1		1				1		
Paracalanus sp	20	17	96	132	31	20	6	10	16	51	92
Eucalanus sp											
Pseudocalanus sp	3	7	21	7	7	5	22	6	3	16	31
Oithona sp			3								
Oithona plumifera		1		12		1		2			22
Euchaeta marina			2	1	1		3	30	6		1
Euchaeta japonica								2			
Corycaeus sp			6		1		1				
Corycaeus venustus	2									1	
Metridia sp					1						
Metridia lucens	2		4	2	2	42	15		3	7	
Hyperia sp		1	6			+		+	2		
Noctiluca scintillans	2										
Sagitta sp						+		+			
Oikopleura sp	6		2		2	1	2	2		10	12
Ostracoda sp							1				
Ceratium sp											
Doliolum sp											
Lucifer raynaudii	1										
Euphausia sp	1		2			1	2		3	1	
Salpa sp									1		
Muggiaea sp								1			1
Hydromedusa sp						+					
Engraulis japonica egg			6								
Oncaea venusta			3								
Shell larva					2	1					
Sagitta bipunctata				+						6	
Copepod egg	1	3	7	7							
Calanus helgolandicus	6	6	31	30	4	3	1	5	3	3	9
Calanus vulgaris											
Euchirella rostrata						2					
Shrimp sp						1					
Podon sp											
Fish egg	3										
Clausocalanus sp											
Conchoecia sp										5	
Collozoum sp											
Candacia armata											
PHYTOPLANKTON											
Chaetoceros spp											
Ch. affinis											
Rhizosolenia. sp					5	35	3	23	6	16	173
Coscinodiscus sp											
Stephanopyxis sp											
Cerataulina sp											
Climacodium sp											
Dattyliosolen tenuis											
Trichodesmium sp											
Actynoptychus sp											
Melosira sp											
Guinardia sp											

June									
1	2	3	4	5	6	7	8	9	10
13	13	13	13	13	13	13	13	14	14
0711	0845	1037	1250	1448	1648	1855	2145	0205	0429
6	2	1	3	1	2	15	4	10	4
5:1	5:1	5:1	3:1	2:1	1:1	3:1	3:1	4:1	5:1
132	56	62	49	44	57	36	51	53	50
173		8	27		6	8	13		113
	1	2	1	1	1			2	
				2					
	12	3		5	7	4	4	3	5
1	31	37	19	22	24	11	18	8	11
			2	3	4			1	
36	4	1				1	2		
	2	3	2	3	9	11	4		4
		1							
							1		2
							3		
145	2	2							
			2	1	8	1	3	3	
			2				2		
	1	2	4	2		3			
		9	9	2	4	2	2		2
		1	2						6
									2
	1						1		
			1						
			1				2	2	1
			2	1		2	6	14	2
								1	
						1			
	1			2					
							2		
		1							7
	1								
									6
			2						
								19	
									2
						7	11	30	30
									1
									14
		8	11		6	1	2		6
			61						61

Month	July							
Station	1	2	3	4	5	6	7	8
Date	12	12	12	12	12	12	12	12
Time	0650	0745	0910	1050	1221	1410	1560	2310
Volume (cc)	10	7	3.5	6	9	9.5	8	1
Dilution	5:1	5:1	4:1	5:1	3:1	4:1	4:1	2:1
Zooplankton Organisms	48	43	39	48	58	23	49	43
Phytoplankton Organisms		14	16	11	8	7	3	69
ZOOPLANKTON								
Copepoda sp		1	1			1		1
Copepoda larva	1	2						
Calanus sp	5	1			2			1
Paracalanus sp			12					6
Eucalanus sp							1	
Pseudocalanus sp	5	1					2	
Oithona sp	1	3	10	2	2		2	1
Oithona plumifera	1		5	7	14	3		
Euchaeta sp			1					
Euch aeta marina								
Corycaeus sp								1
Corycaeus venustus			1	1			1	
Centropages sp								
Acartia clausi	1				1	1	2	1
Acartia sp								
Temora sp								1
Temora turbinata								
Temoradiscaudata								1
Hyperia sp							6	
Evadne sp								
Noctiluca scintillans			2		1			
Sagitta sp				1				
Oikopleura sp	1		2	2	1	1		
Ophiopluteus sp								
Ceratium sp		1					1	20
Lucifer raynaudii								1
Brachyura larva								
Polychaeta larva								
Muggiaea sp								2
Hydromedusa sp			1					1
Engraulis japonica egg		1						
Oncaea venusta		1						2
Shell larva				1				2
Paracalanus parvus	18	31		24	34	11	20	
Copepoda egg	14	1						
Calanus helgolandicus	1		2	2	+	2	1	
Aulosantha scolymantha								
Vibilia sp								
Setella sp								
Calanus vulgaris			1		1	1		
Euchirella rostrata								
Parafavella sp								2
Calanus cristatus			1	8	2	3	13	
PHYTOPLANKTON								
Chaetoceros spp			14	11				28
Rhizosoenia sp		1			2			12
Biddulphia sinensis								
Coscinodiscus sp		13	2		6	7	3	3
Stephanopyxis sp								26
Asterionella japonica								
Lauderia borealis								
Cerataulina sp								
Melosira sp								
Biddulphia sp								
Asterionella sp								

October									
1	2	3	4	5	6	7	8	9	10
18	18	18	18	18	18	18	18	18	18
0710	0847	1015	1145	1400	1610	1810	2100	1140	0250
2	3	2	4	15	3	15	7	9	15
4:1	5:1	3:1	3:1	10:1	5:1	10:1	5:1	5:1	5:1
45	98	46	45	40	48	45	22	47	49
	18		7	36	42	63	99		
3	1		1	1		4			
1			1	1	2	1			1
2					3			2	2
			31	6		2			8
1		5	2						2
			1	2		1	3	1	3
4	3	1	7	3	2	1		3	6
	6							1	
	4			10		1			
			3	2		1	1		3
				1					
					1			2	2
			1						
			1						
	1							2	
2									
						4		1	5
			3	5	2		4	1	4
4			1	4	3	1	7	1	3
2				1					
						1		9	6
	2			2					
						13			
1				2	12	5	3	3	
23	79	40			3		2	2	
1									
			3						
					20	10		16	3
							1		
1								1	1
							1	2	
	2								
					33	16	40	31	37
				3			40	22	57
					7				
					2	2	16	2	6
	18		7	33		16		45	10
						7			
								16	
						24			6

Month	December				
Station	1	2	3	4	5
Date	15	15	15	15	15
Time	1605	1100	1215	1310	1605
Volume (cc)	1	0.3	0.5	2	2
Dilution	3:1	3:1	2:1	2:1	3:1
Zooplankton Organisms	101	39	34	77	70
Phytoplankton Organisms				29	15
ZOOPLANKTON					
Copepoda sp	2	2	2	3	
Copepoda larva	1	2	2	1	1
Calanus sp	1	1	1	2	
Paracalanus sp	71	21	19	27	34
Eucalanus sp				1	4
Pseudocalanus sp	3	2	5	1	
Oithona sp	6		1	4	10
Oithona plumifera	6	5	3	2	3
Euchaeta marina	2	2			
Corycaeus sp	1	1			3
Acartia clausi				1	
Acartia sp					2
Noctiluca scintillans				1	
Sagitta sp	1				
Oikopleura sp	3		1	1	7
Ostracoda sp	1				
Corycaeus anglicus					1
Oncaea venusta	1			1	2
Shell larva	1			3	
Paracalanus parvus				29	
Calanus helgolandicus		2			
Aulacantha scolymantha					1
Setella sp	1				1
Calanus vulgaris		1			1
PHYTOPLANKTON					
Rhizosolenia sp					1
Coscinodiscus sp					1
Stephanopyxis sp					13
Asterionella sp					
Biddulphia sp					
Asterionella sp				29	

B. 竹邊線 浮游生物調査成績 ㊖

PLANKTON DATA, LINE B (VERTICAL HAUL) 1960

Month	March						April					
Station	15	16	17	18	19	20	15	16	17	18	19	20
Date	25	25	25	25	25	26	18	18	18	18	41	18
Time	1140	1335	1614	1850	2145	0047	0928	1640	1426	1725	2040	2250
Volume(cc)	10	10	8	5	5	5	3.5		8	3	8	6
Dilution	40:1	30:1	30:1	30:1	30:1	20:1	2:1		5:1	2:1	3:1	5:2
Zooplankton Organisms	1.05	67	21	47	45	15	72		76	87	109	164
Phytoplankton Organisms	15	18	41	13	1		39		16		21	6
ZOOPLANKTON												
Copepoda sp	4	2	1		3		2		8	1	6	1
Copepoda larva											15	1
Calanus sp	27	45		19	22						5	6
Paracalanus sp		5	1	17		6	40		77	51	69	124
Eucalanus sp									1	1		
Pseudocalanus sp							10		10	13	3	13
Rhincalanus sp					8							
Olthona ps				6							3	
Olthona plumifera	9	4	5				1		19	1		1
Euchaeta sp											2	
Euchaeta marina							3			2		4
Euchaeta japonica												
Corycaeus sp										1	1	2
Corycaeus venustus									3			
Centropages sp	2				8							
Cent. abdominalis									2			
Metridia sp							3		12			
Acartia clausi												
Acartia sp												
Temora sp												
Temora turbinata												
Hyperia sp							+		1			+
Noctiluca scintillans											2	
Sagitta sp		1					+		6		4	
Oikopleura sp				3			1		18	2	2	2
Ostracoda sp										1		
Ophiopluteus sp											1	
Ceratium sp												
Euphausia sp	1				2	6	1			1		+
Muggiaea sp							1		1	1	3	1
Hydromedusa sp					2							
Engraulis japonica egg												
Labidocera sp												
Oncaea venusta	3										1	
Shell larva												1
Sagitta bipunctata												1
Paracalanus parvus												
Copepoda egg	3		4	2						7		1
Calanus helgolandicus	55	10	10			3	8		18	5	1	4
Aulacantha scolymantha												
Setella sp												
uphausia larva												
Calanus vulgaris												
Amphipoda sp	1											
Euchirella rostrata							1					
Shrimp sp												1
Calanus cristatus											1	
Actinophrys sol												
PHYTOPLANKTON												
Chaetoceros spp												
Ch. affinis												
Rhizosolenia, sp												
Rh. styliformis												
Thalassiothrix Frauenfeldii												
Coscinodiscus sp	15	18	41	13	1		39		16		21	6
Stephanopyxis sp												
Asterionella japonica												
Cerataulina sp												
Asterionella sp												

Month	June						October					
Station	15	16	17	18	19	20	15	16	17	18	19	20
Date	16	16		16		16			29	29	29	25
Time	0555	0757		1415		2142			1335	1125	0850	0750
Volume(cc)	1.	3		1		11.5			6	5	20	3
Dilution	5:1	2:1		3:1		5:1			5:1	3:1	10:1	4:1
Zooplankton Organisms	31	80		69		44			26	32	22	41
Phytolpankton Organisms	32			9					319	178	180	
ZOOPLANKTON												
Copepoda sp		1		2		1			2	2		3
Copepoda larva				1								3
Calanus sp		2				2					2	2
Paracalanus sp	8	11		24		16			3		1	8
Eucalsnus sp				2							1	
Pseudocalanus sp		1				18			1	1	1	
Rhincalanus sp												
Oithona sp	3	2		5					2	2	5	1
Oithona plumifer		46								9		
Euchaeta sp						1						
Euchaeta marina	1											
Euchaeta japonica											3	1
Corycaeus sp												
Corycaeus venustus												
Centropages sp												
Cent. abdominalis												
Metridia sp	1											1
Acartia clausi										4		
Acartia sp										2		
Temora sp												
Temora turbinata												
Hyperia sp	3	12				1						1
Noctiluca scintillans	1			4						1		
Sagitta sp		1		1					5		1	3
Oikopleura sp	1	4		3					5	2	2	3
Ostracoda ap												
Ophiopluteus sp												
Ceratium sp				1								
Euphausia sp				1		2						
Muggiaea sp												
Hydromedusa sp												
Engraulis japonica egg				1								
Labidocera sp				1					2			
Oncaea venusta	2								3	2	3	12
Shell larva									3			~~12~~
Sagitta bipunctata												
Paracalanus parvus	12											
Copepoda egg				24								
Calanus helgolandicus						3						1
Aulacantha scolymantha										7		
Setella sp												
Euphausia larva												~~2~~
Calanus vulgaris										12		2
Amphipoda sp												
Euchirella rostrata											1	
Shrimp sp												
Calanus cristatus												
Actinophrys sol												
PHYTOPLANKTON												
Chaetoceros spp									23			
Ch. affinis	26									86		
Rhizosolenia. sp									165	77	85	
Rh. styliformis											45	
Thalassiothrix Frauenfeldii									56			
Coscinodiscus sp	6			6					13	2	1	
Stephanopyxis sp									18			
Asterionella japonica									21		38	
Celataulina sp											11	
Asterioenlla sp									23	3		

Month	December								
Station	1	2	3	4	5	6	7	8	9
Date	15	15	15	20	21	21	21	21	21
Time	1820	2120	2215	0705	0950	1635	1230	1330	1415
Volume(cc)	2	1	2.5	2	1	1.5	0.5	7	1
Dilution	7:1	5:1	3:1	2:1	3:1	3:1	5:1	3:1	3:1
Zooplankton Organisms	63	38	130	46	38	63	96	103	52
Phytoplankton Organisms	50							20	
ZOOPLANKTON									
Copepoda sp	3		1		1			1	2
Copepoda larva	7	2	3	2	1				4
Calanus sp		2				2	2	1	2
Paracalanus sp	22	19	78	16	16	28	78	84	28
Eucalanus sp				6		8	3	2	
Pseudocalanus sp	2	3	18			1		9	6
Oithona sp	3		22	8	1	8	3		1
Oithona plumifera	4	6		9	1		3		1
Euchaeta marina		1				1		2	
Euchaeta japonica					1				
Metridia lucens									3
Corycaeus sp			2		2	2	3	1	1
Acartia clausi		1							
Acartia sp			3		3				
Temora turbinata							1		
Hyperia sp	1		1				2		
Noctiluca scintillans	3								
Sagitta sp	1		1	1					
Oikopleura sp	13	2	2		4	5			
Ostracoda sp									1
Ceratium sp		1							
Labidocera sp				3					
Oncaea venusta	1				5		1	3	
Aulacantha scolymantha									3
Calanus vulgaris		1		1	2	8			
Actinophrys sol	3								
Podon sp					1				
PHYTOPLANKTON									
Chaetoceros spp	45								
Rhizosolenia sp	2								
Coscinodiscus sp	3							20	

C. 慶北線 浮游生物調査成績 (特)

PLANKTON DATA, LINE C (VERTICAL HAUL) 1960

Month	April									
Station	1	2	3	4	5	6	7	8	9	10	11
Date	3	3	3	3	4	4	4	4	4		24
Time											20.15
Volume(cc)	12	10	5	6	11	4	11	3	3		4
Dilution	45:1	30:1	30:1	40:1	30:1	30:1	45:1	30:1	40:1		30:1
Zooplankton Organisms	30	14	51	46	55	19	54	31	51		78
Phytoplankton Organisms		1	17	12	13	119	55	31	7		
ZOOPLANKTON											
Copepoda sp											
Copepoda larva											
Calanus sp	9	3	29	21	15	2	21	7			
Paracalanus sp	19		13	17	29	9	5	17			18
Eucalanus sp											
Pseudocalanus sp											
Rhincalanus sp				1							
Rhinca. nasutus											
Oithona sp								3			
Oithona plumifera			1	2	2	7	18	1	8		
Euchaeta mairna											
Corycaeus sp											
Corycaeus venustus											
Acartia clausi											
Acartia sp											
Temora turbinata											
Hyperia sp		1	3	3	1						2
Noctiluca scintillans											
Sagitta sp											
Oikopleura sp					2		2	1	12		
Ostracoda sp											
Ceratium sp											
Brachyura larva	1										
Euphausia sp											
Muggiaea sp											
Hydromedusa sp		1									
Engraulis japonica egg											
Oncaea venusta											2
Shell larva											
Sagitta bipunctata						1					
Paracalanus parvus											
Copepoda egg			3	2			8	2	3		
Calanus helgolandicus											20
Aulacantha scolymantha											
Vibilia sp			2		6						
Setella sp											
Calanus vulgaris		9							26		36
Euchirella rostrata											
Hybocodon sp		+	+	+							
Aglantha digitale			+								
Aglaura hemistoma				+				1	2		
Volvox sp											
Acrocalanus sp											
PHYTOPLANKTON											
Chaetoceros spp											
Ch. affinis											
Ch. Lorenzianus											
Ch. borealis											
Rhizosolenia sp											
Rh. styliformis											
Rh. hebetata											
Coscinodiscus sp	1	17	6	13	119	55	31	7			
Asterionella japonica											
Lauderia borealis											
Melosira sp			6								
Biddulphia sp											

October

1	2	3	4	5	6	7	8	9
23	22	21	21	21	21	21	21	21
0910	0045	2315	2120	1920	1725	1445	1205	0920
8	15	01	8	3	19	10	10	8
5:1	2:1	5:1	5:1	4:1	5:1	7:1	5:1	5:1
50	2	10	47	41	57	40	42	81
13			29	42	69			124
5			1	1	5	1		1
				1			2	1
			1	1	2	1	3	2
		8			12	2		11
			3	6			2	2
5			1		1	1	1	10
								3
3			5	7	11	7	1	6
2								
1							2	
2			6		2			
				1				2
1				2				
			1		1	5		2
					1			
4					1			1
			5	2	2	1	3	2
1			1	6	2	4	7	4
3				3	4	2	3	4
		2						
			6				3	
1								
1								
							1	
	1	+						
								1
7			3	1	8	5	6	21
1				1				
3			4	7			5	
			8		2	10	1	6
2	1		2		2		2	2
8					1	1		
				2				
							1	
								2
7					36	5		60
			26					5
						50		
				16				
			3					
				26				
					33			
6							7	11
						3		
						67		58

D. 甘浦線 浮游生物調査成績 (特)

PLANKTON DATA, LINE D (VERTICAL HAUL) 1960

Month	April					
Station	1	2	3	4	5	6
Date	23	23	23	23	25	22
Time	1230	950	745	430	250	1125
Volume (cc)	2	3	8	12	11	8
Dilution	40:1	40:1	40:1	40:1	40:1	40:1
Zooplankton Organisms	44	67	53	78	25	36
Phytoplankton Organisms					23	
ZOOPLANKTON						
Copepoda sp	1			1		
Copepoda larva	7					
Calanus sp	1			1		
Paracalanus sp	24	50	25	49	15	22
Oithona plumifera	5		4	5		
Corycaeus sp				2		
Corycaeus venustus						1
Hyperia sp					+	+
Sagitta sp				+		+
Oikopleura sp	1	6	1	1	4	1
Ostracoda sp	1		1	2		1
Euphausia sp	1			1	+	
Salpa sp				+		
Muggiaea sp	1					
Hydromedusa sp						+
Labidocera sp						1
Oncaea venusta		2	1		3	
Copepoda egg	1	8	1			
Calanus helgolandicus	1	1	19	10	3	10
Vibilia sp						+
Calanus vulgaris			1	6		
PHYTOPLANKTON						
Coscinodiscus sp					23	
Cos. Grani						
Bacteriastrum sp						
Stephanopyxis sp						
Actynoptychus sp						
Melosira sp						
Guinardia sp						

E. U線 浮游生物調査成績 (続)

PLANKTON DATA, LINE E (VERTICAL HAUL) 1960

Month	February					March					
Station	1	2	3	4	5	1	2	3	4	5	6
Date	19	22	23	23	23	14	14	14	14	14	14
Time	0635	1805	0845	1035	1205	0605	0740	0615	1050	1235	1400
Volume(cc)	11	30	15	6	16	12	40	31	15	20	21
Dilution	30:1	40:1	30:1	30:1	30:1	40:1	30:1	40:1	30:1	40:1	30:1
Zooplanktom Organisms	19	18	21	8	31	24	30	2	14	24	7
Phytoplankton Organisms	45	30	9	45	10	7	35	53		2	40
ZOOPLANKTON											
Copepoda larva		3	1		3	5	7			3	
Calanus sp											
Paracalnus sp	9	3	5		3	7	20		6	6	
Oithona sp											
Oithona plumifera	1	1	1		10			2			
Corycaeus sp	1		1		1	3					
Corycaeus venustus											
Centropages abdominalis											
Hyperia sp											
Noctiluca scintillans									1	13	
Sagitta sp	1		3								
Oikopleura sp					1						
Ostracoda sp		1									
Euphausia sp						3					
Salpa sp											
Hydromedusa sp					6	1					
Mysis larva											
Oncaea venusta			1								
Shell larva											
Paracalanus parvus											
Sagitta hexaptera											
Copepoda egg	3	1	1		2	1			3	2	
Calanus helgolandicus	3		1	2	2	4	3		2		7
Vibilia sp				6					1		
Paracalanus larva	1		7		2				1		
Calanus vulgaris					1						
PHYTOPLANKOTN											
Rhizosolenia sp			1								
Skeletonema costatum	11			22			35				25
Biddulphia sinensis	14					6					
Coscinodiscus sp	9	3	4	23	2			13		2	15
Asterionella japonica	3	13									
Melosira sp	6	7	1			1					
Biddulphia sp	2	7	3		10			40			

Month	April						September					
Station	1	2	3	4	5	6	1	2	3	4	5	6
Date	13	22	22	22	22	22	24					
Time	0610	0705	1030	1227	1435	1603						
Volume(cc)	10	10	6.2	3	11	9	2					
Dilution	30:1	40:1	30:1	30:1	40:1	40:1	2:1					
Zooplankton Organisms	39	29	113	79	91	45	51					
Phytoplankton Organisms		3	2		1	8						
ZOOPLANKTON												
Copepoda larva		2	3	2								
Calanus sp							2					
Paracalnus sp	21	16	86	36	49	27	6					
Oithona sp		1										
Oithona plumifera			1		3							
Corycaeus sp	1	1										
Corycaeus venustus				1		2	9					
Centropages abdominalis							2					
Hyperia sp	1											
Noctiulca scintillans							13					
Sagitta sp	3						1					
Oikopleura sp	1		7			11	1					
Ostracoda sp	1		3	4	2	1						
Euphausia sp	3				3							
Salpa sp			3	18	23							
Hydromedusa sp	2			2								
Mysis larva	1											
Oncaea venusta	1		2		3		11					
Shell larva							2					
Paracalanus parvus							1					
Sagitta hexaptera							3					
Copepoda egg		2	2	12	5	1						
Calanus helgolandicus	5	7	6	4	2	2						
Paracalanus larva					1							
Calanus vulgaris						1						
PHYTOPLANKTON												
Rhizosolenia sp												
Skeletonema costatum												
Biddulphia sinensis												
Coscinodiscus sp		3	2		1	8						
Asterionella japonica												
Melosira sp												
Biddulphia sp												

F. B線 浮游生物調査成績 (特)

PLANKTON DATA, LINE F (VERTICAL HAUL) 1960

Month	January			February					
Station	1	2	12	1	2	3	4	5	6
Date	29	29	29	18	18	18	18		18
Time	836	915	930	0918	1010	1055	1150		0920
Volume(cc)	2	3	1	6	28	32	10		15
Dilution	1:3	1:5	20:1	1:3	1:3	1:3	20:1		20:1
Zooplankton Organisms	13	12	27		9	10	19		77
Phytoplankton Organisms	132	12	78	518	391	409	51		40
ZOOPLANKTON									
Copepoda sp	5	1	2		1		1		8
Copepoda larva	1		3						
Calanus sp					1				
Paracalanus sp	2	6	15		1	2	3		26
Eucalanus sp									
Pseudocalanus sp									
Oithona plumifera	4		3		1				13
Euchaeta marina									
Euchaeta japonica									10
Corycaeus sp		4	1			2			13
Centropages abdominalis									1
Penilia sp									
Noctiluca scintillans		1	1						
Oikopleura sp	1					3	2		1
Ostracoda sp							1		
Ceratium sp									
Balanus larva									
Polychaeta larva									
Euphausia sp									
Muggiaea sp			2				1		3
Hydromedusa sp.							1		
Paracalanus parvus									
Copepoda egg					1	10			
Calanus helgolandicus									1
Euphausia larva									
Paracalanus larva					4	2			
Amphipoda sp									
Euchirella rostrata									1
Clausocalanus sp						1			
Siriella watasei									
PHYTOPLANKTON									
Chaetoceros spp	16		16	36	41	141	16		6
Rhizosolenia sp				3	1	1			
Rh. styliformis									
Biddulphia sinensis					12				
Thalassiothrix Frauenfeldii			7		6	51			21
Th. longissima				11	7				
Nitzschia longissima	1								
Coscinodiscus sp	87	9	37	18	18	17	8		
Stephanopyxis sp			16	66	40	21	4		
Lauderia borealis	17			223	175	147	17		11
Cerataulina sp				75	47				
Eucampia zoodiacus	10			72	28	13			
Melosira sp				2	16				
Biddulphia sp	1	3	2	15		18	6		2

Month	March					April	
Station	1	2	3	4	5	1	2
Date		15	15	14	14	9	9
Time		215	225	2345	2245	830	935
Volume(cc)		5	30	25	12	2	3
Dilution		3:1	1:3	1:3	1:3	10:1	10:1
Zooplankton Organisms		80	21	7	30	12	25
Phytoplankton Organisms		12	42	55	79		
ZOOPLANKTON							
Copepoda sp		4		1	4	1	3
Copeopda larva		7	3			1	5
Calanus sp			2				3
Paracalanus sp		15	5	2		7	4
Eucalanus sp							
Pseudocalanus sp		3					
Oithona plumifera		2		1			
Euchaeta marina		9					
Euchaeta Japonica							
Corycaeus sp						1	
Centropages sp							
Penilia sp							
Noctiluca scintillans		2	2		20		
Oikopleura sp		8	2				1
Ostracoda sp		3			1		
Ceratium sp			3	1			1
Balanus larva		1					
Polychaeta larva							
Euphausia sp		8					
Muggiaea sp		7	2				
Hydromedusa sp		5	1	1			
Paracalanus parvus							
Copepoda egg		1		1			6
Calanus helgolandicus		2				2	2
Euphausia larva		1					
Paracalanus larva					1		
Amphipoda sp					1		
Euchirella rostrata							
Shrimp larva		2	1				
Siriella watasei					3		
PHYTOPLANKTON							
Chaetoceros spp			14		21		
Rhizosolenia sp		2	3	1			
Rh. styliformis							
Biddullphia sinensis							
Thalassiothrix Frauenfeldii				1			
Th. longissima				6			
Nitzschia longissima							
Coscinodiscus sp		6	10	21	14		
Stephanopyxis sp		4					
Lauderia borealis			15	25	38		
Cerataulina sp					6		
Eucampia zoodiacus							
Melosira sp							
Biddulphia sp				1			

April			July				
3	4	5	1	2	3	4	5
9	9	9	15				
1030	120	1238	0350				
5	3	6	10				
10:1	5:1	10:1	1:3				
21	20	33	47				
170	109	12	9				
2	7	3	2				
3	4	2					
		1	1				
4	5		8				
		1					
			1				
		2					
	1						
	1	1					
			30				
			2				
1	1						
		12					
4	1	3	1				
7		8					
			2				
51	15						
17	13						
		3					
24	12		4				
18	11						
7		1	5				
10							
4	34	8					
31	13						
	11						
8							

G. 麗水線 浮游生物調査成績 ㊖

PLANKTON DATA, LINE G (VERTICAL HAUL) 1960

Month	June					July			
Station	1	2	3	4	5	1	2	3	4
Date	18	18	18	18	17	15	15	15	15
Time	0545	0725	0915	1135	1600	0601	0720	0855	1435
Volume(cc)	0.8	1.5	2	8	1	6	10	23	15
Dilution	3:1	40:1	40:1	40:1	40:1	30:1	30:1	40:1	30:1
Zooplankton Organisms	54	34	32	60	16	54	48	165	80
Phytoplankton Organisms		3		1	21			30	58
ZOOPLANKTON									
Copepoda sp	1	4	2	1			7	25	4
Copepoda larva		1				1			
Calanus sp	3								4
Paracalanus sp	16	12	3	4		14	8	60	19
Pseudocalanus sp						1			
Oithona plumifera							2	2	2
Euchaeta marina	3					5	7		
Centropages abdominalis						1		1	
Acartia sp									
Hyperia sp	2					4			
Noctiluca scintillans			1	1					7
Pyrocystis noctiluca								2	
Sagitta sp	+	1				+	2	4	
Oikopleura sp				9			1	53	12
Ostracoda sp	3	6				6	11	1	
Ceratium sp					1				4
Doliolum sp	3		20	4		4			1
Balanus larva					8				
Brachyura larva	1				1				
Euphausia sp	1	1			3				
Muggiaea sp	1	3				2	6	3	1
Hydromedusa sp					1				
Engraulis japonica egg					1		1		
Brachyura sp							1		
Corycaeus anglicus		3	1	1	1			3	
Obelia geniculata			2						
Shell larva	2								3
Copepoda egg	14		1			8		5	4
Calanus helgolandicus	2	3	2			2		3	13
Euphausia larva								1	
Amphipoda larva	2					5			
Fish egg						1			
Paracalanus larva							2		5
Sapphirina sp								2	
PHYTOPLANKTON									
Chaetoceros spp									18
Rhizosolenia sp				1				17	34
Thalassiothrix Frauenfeldii					18				
Coscinodiscus sp		3			3			2	3
Stephanopyxis sp								11	
Cerataulina sp									3

H. 濟州線 浮游生物調査成績 (特)

PLANKTON DATA, LINE H (VERTICAL HAUL) 1960

Month	September					
Station	1	2	3	4	5	6
Date	2	2	2	3	3	4
Time	1008	1140	1425	1330	1520	0640
Volume(cc)	0.5	4	1.5	2.5	2.5	3
Dilution	15:1	2:1	2:1	2:1	10:1	20:1
Zooplankton Organisms	17	79	30	124	131	221
Phytoplankton Organisms	2			69	1	
ZOOPLANKTON						
Copepoda sp	1		1		2	
Copepoda larva	2	4			1	
Calanus sp	1	1	1	1	3	3
Paracalanus sp	4				26	
Eucalanus sp		2		4	7	17
Pseudocalanus sp	1				2	
Oithona sp		2	1	2	11	
Oithona plumifera		1	2	1	2	12
Euchaeta marina	3		2		6	11
Corycaeus sp				1		7
Corycaeus venustus		4	1			
Acartia sp		2				
Temora sp						2
Temora discaudata		2				
Hyperia sp	1	2				
Noctiluca scintillans		2		4	13	43
Sagitta sp		3		+	1	
Oikopleura sp	2	11	3	4	5	1
Ophiopluteus sp				1		
Ceratium sp	2				1	
Lucifer raynaudii		1				
Balanus larva				4		
Salpa sp	+					
Brachyura sp					1	
Oncaea venusta				1		7
Shell larva					1	
Sagitta bipunctata			2		2	12
Paracalanus parvus		21	11	19		71
Sagitta hexaptera				1		
Copepoda egg					1	16
Calanus helgolandicus		1				
Aulacantha scolymantha		63	6	1	43	18
Setella sp		4				
Euphausia larva					1	
Calanus vulgaris				1	2	
Euchirella rostrata						1
Parafavella sp		1				
Microsetella sp		2				
Acanthometron sp				50		
Rophidiophrys sp				29		
PHYTOPLANKTON						
Chaetoceros spp				21		
Ch. borealis				16		
Ch. decipiens				31		
Rhizosolenia sp	2			1	1	

I. 全南線 浮游生物調査成績 ㊖

PLANKTON DATA, LINE I (VERTICAL HAUL) 1960

Month	January		August				September				
Station	2	4	1	2	3	5	1	2	3	4	5
Date	20	26	13	13	12	12	5	8	7	7	7
Time				0820	1638	1125	1030	930	1010	1145	1250
Volume(cc)	5	8	0.5	1	1	0.7	3	2	2	2	1
Dilution	40:1	40:1	2:1	10:1	15:1	10:1	10:1	20:1	10:1	20:1	10:1
Zooplankton Organisms	25	9	11	44	53	49	69	26	38	61	70
Phytoplankton Organisms						2	3		28	11	6
ZOOPLANKTON											
Copepoda sp						2		1	1		1
Copepoda larva						1	2	1	1		2
Calanus sp					3	3		1			
Paracalanus sp		2								8	1
Eucalanus sp			1		5	2	2	2	2	7	
Oithona sp				1		1	1			11	1
Oithona plumifera				3		3	4	2	2		
Euchaeta marina				1	1		6	1			
Corycaeus sp	3			3				3		3	1
Corycaeus venustus				4	4	1	16				
Acartia clausi				3		20					
Temora turbinata							1				
Hyperia sp					1	1	1				
Sagitta sp	11	1			16	1		4	8	4	
Oikopleura sp						2	1		3		
Ophiopluteus sp			2	2		1			1	1	
Ceratium sp											13
Brachyura larva									1		
Salpa sp									1	11	47
Muggiaea sp							1				
Hydromedusa sp									8	1	
Brachyura sp										2	
Alima larva							1				
Corycaeus anglicus									2		
Oncaea venusta							2		1		
Obelia geniculata				2			1				
Shell larva								1			
Sagitta bipunctata						2	10				
Paracalanus parvus	5		8	5	13	8	19	3	7		
Sagitta hexaptera				12							
Copepoda egg				8	1	1		1		6	
Calanus helgolandicus	6	2			7		1	4			
Setella sp											2
Calanus vulgaris										6	
Shrimp sp					1			2			
Parafavella sp											2
Stylocheiron carinatum		4									
Phronima pacifica					1						
Clytemnestra sp										1	
PHYTOPLANKTON											
Chaetoceros spp									18		
Rhizosolenia sp									2		
Coscinodiscus sp						2	3		8	11	6
Cos. Janishii											
Cos. radiatus											
Cos. Granii											

J. 全北線 浮游生物調査成績 (特)

PLANKTON DATA, LINE J (VERTICAL HAUL) 1960

Month	August						September						October		
Station	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3
Date	6	6	6	6	6	6	6	6	6	6	6	6	12	12	12
Time	0650	0850	0930	1100	1340	1520	0550	0750	0920	1120	1320	2040	1320	1420	1450
Volume(cc)	1	2	3	5	3	1	4	1	2	7	1.5	4	1	2	1.5
Dilution	5:1	5:1	3:1	6:1	4:1	5:1	3:1	2:1	15:1	3:1	2:1	5:1	4:1	10:1	5:1
Zooplankton Organisms	22	84	37	56	56	77	29	8	71	45	121	65	76	68	83
Phytoplankton Organisms	120	133	87	78	95	74	215		94	6	138	66	94	45	105
ZOOPLANKTON															
Copepoda sp													1	1	2
Copepoda larva			2												
Calanus sp			1	3	2		1				5				
Paracalanus sp		3				2							9		
Eucalanus sp				1											
Pseudocalanus sp											6				
Euchaeta marina				1						1					
Candacia sp												2			
Acartia clausi					18	11									
Temora sp			1												
Temora turbinata		2		1											2
Hyperia sp				1	1										
Evadne sp	2								3			11			
Noctiluca scintillans	2				1	11			17	13	2	4			
Sagtta sp		26	2		3	3	2	3		1	8				
Oikopleura sp		3	3			1				7	40	9	5	1	
Ostracoda sp	1														
Ophiopluteus sp	5	25	7	2	13	40	3		11		6	7			
Ceratium sp										2	19	6			
Balanus larva													3		
Polychaeta larva		3										16	16	6	
Euphausia sp					1									3	2
Salpa sp									3						
Muggiaea sp						1									
Hydromedusa sp							1		1	6					
Engraulis japonica eg									2			1			
Brachyura sp	1	6	3							1	3				
Corycaeus anglicus	3	8	8	21	6	5			16		7			1	
Labidocera sp	2			1											1
Obelia geniculata		1					2		6		3				
Hidode larva	1	2				3									
Sagitta bipunctata							2	3		4					
Paracalanus parvus	3		10	19	5		16		6	6	2	3	40	30	76
Sagitta hexaptera	2	4		3	2			2		1	3	3			
Copepoda egg							2								
Calanus helgolandicus				2						1	1				
Aulacantha scolyantha									6					26	
Vibilia sp				1											
Euphausia larva		1			2										
Oithona nana					2										
Ctenophora sp										3	16				
Volvox sp												1			
Pontella sp													2		
PHYTOPLANKTON															
Chaetoceros affinis							35				16				
Skeletonema costatum							11				17				
Biddulphia sinensis	16	41	32	38	58	46	43						3	17	18
Coscinodiscus sp		6					1		8						
Asterionella japonica	87	86	40	37	31	28	125		86	6	87	66	91	128	83
Cerataulina sp	17		15		6										
Biddulphia sp				3							18				

K. 忠南線 浮游生物調査成績 (特)

PLANKTON DATA, LINE K (VERTICAL ... HAUL) 1960

Month	August						September				
Station	1	2	3	4	5	6	2	3	4	5	6
Date	8	8	8	8	8	8	9	9	9	9	9
Time	1720	1600	1425	1225	1025	0825	1730	1730	1530	3130	0930
Volume (cc)	22	0.1	3	3	6	4	0.5	1.5	2	1.3	1
Dilution	5:1	10:1	10:1	5:1	10:1	5:1	5:1	30:1	3:1	25:1	30:1
Zooplankton Organisms	84	19	43	58	56	31	67	38	30	48	45
Phytoplankton Organisms	58			50	63	128	21	41	115	62	211
ZOOPLANKTON											
Copepoda sp		1		1	4			3	1		
Copepoda larva										1	
Calanus sp			1	1		3		1		1	
Cal. fimmarchicus				3							
Paracalanus sp	26	2	8	6	24						
Oithona plumifera					1	3				3	
Euchaeta marina									1		
Corycaeus sp		2									
Acartia clausi				3	4	3				3	2
Temora sp			1								
Temora turbinata	3						3				
Hyperia sp				+							
Evadne sp			3								7
Noctilca scintillance				8	3		3		3	3	7
Sagitta sp	+		3	+		3		3		5	3
Oikopleura sp			1		4	3	18	3	1	3	
Ophiopluteus sp		3	1	16		3			4	7	3
Ceratium sp									1	3	
Brachyura larva			1					1			
Polychaeta larva		6									
Muggiaea sp							6				
Hydromedusa sp			1								
Engraulis japonica egg	2										
Brachyura sp	8	4									
Alima larva	3										
Corycaeus anglicus	6		17	3	3	3	8	7	3	3	3
Labidocera sp		1	1						3		
Oocaea venusta			1					3			
Obelia geniculata			3					1			3
Shell larva			1								
Hidode larva				1	6						
Calanus minor				7							
Sagitta bipunctata				6	3				3		2
Paracalanus parvus					1	9	26	11	11	3	7
Sagitta hexaptera				3	3	1	3	3	2	3	3
Copepoda egg								1	1		
Calanus heloglandcus								1		3	
Aulacantha scolymantha										3	
Vibilia sp										1	
Setella sp										3	
Euphausia larva											5
PHYTOPLANKTON											
Chaetoceros spp									21	16	85
Ch. affinis											33
Skeletonema costatum									13		
Biddulphia sinensis	55			50	42	101		6	9	2	
Coscinodiscus sp	3						21	3	6	8	16
Stephanopyxis sp								36	66	36	77
Actynoptychus sp											
Guinardia sp											
Biddulphia sp					21	27					

第　三　編

随時海洋観測成績

PART　Ⅲ

MISCELLANEOUS OCEANOGRPHIC OBSERVATIONS

1960

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1. 東 海 海 洋 觀 測 成 績

OCEANOGRAPHIC DATA, EAST COAST

A. 江原, 慶北 近海, 4~9月 (第1圖)

EAST COAST, APRIL~SEPTEMBER (Fig. 1)

Date		① April 1960				
Sta. No.		1 37°39' 130°23'	2 37°43' 129°59'	3 37°49' 129°37'	4 37°55' 129°15'	5 38°01' 128°54'
Day		24	25	25	25	25
Item	Time / Z(m)	2145	0106	0435	0706	0945
T °C	0	15.50	16.00	15.40	15.80	15.70
	10	15.10	—	14.65	15.33	13.92
	25	13.00	12.36	12.49	15.58	10.72
	50	11.67	11.89	11.79	14.10	6.38
	100	11.41	—	—	12.46	1.41
	150	10.02	10.80	11.20	2.91	1.18
	200	6.10	7.95	5.90	1.20	0.80
	300	1.80	1.46	1.39	—	—
	Botm.					
S ‰	0	34.67	34.69	34.63	34.70	34.58
	10	34.72	34.63	34.65	34.74	34.56
	25	34.45	34.36	34.45	34.74	34.45
	50	34.40	34.33	34.33	34.70	34.25
	100	34.47	34.49	34.45	34.72	33.98
	150	34.34	34.34	34.40	34.02	34.04
	200	34.07	34.16	34.11	34.00	34.07
	300	34.02	33.98	34.02	—	—
	Botm.					
Sounding (m)		—	—	—	—	—
Transp.(m)		—	—	—	—	—
Color		—	—	—	—	—
Wave		—	—	—	—	—
Swell		—	—	—	—	—
Air Temp.(°C)		16.0	14.5	15.5	17.1	19.5
Air Press.(mm)		—	736.5	736	—	736
Wind		—	S.6	—	S.2	0
Cloud		—	Nb.10	As.10	Sc.1	0
Weather		—	R	C	B	B

Date		② August 1960									
Sta. No.		6 36°07' 129°40'	7 36°08' 130°05'	8 36°10' 130°17'	9 36°17' 130°10'	10 36°25' 130°02'	11 36°32' 125°59'	12 36°41' 129°40'	13 36°48' 129°41'	14 36°56' 129°33'	15 37°22' 130°03'
Day		28	28	28	28	27	27	27	27	27	26
Item	Time / Z(m)	0740	0430	0320	0120	2310	2110	1905	1705	1500	0130
T °C	0	25.50	26.70	26.50	26.60	26.50	26.70	24.60	21.10	22.50	25.00
	10	22.50	26.50	26.50	26.50	26.04	20.40	20.50	19.58	17.50	24.04
	25	12.10	18.60	22.20	21.30	18.52	15.01	13.62	12.30	13.70	23.90
	50	8.10	14.90	16.30	15.70	15.20	13.20	8.80	6.20	9.85	17.10
	100	—	5.60	15.02	10.40	13.28	10.20	2.60	2.63	3.41	13.06
	150	—	4.80	6.04	3.20	5.90	4.04	1.60	1.82	—	10.09
	200	—	2.10	1.80	3.20	5.50	3.90	—	1.30	—	9.50
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—	—	1.70	—
S ‰	0	31.87	31.80	31.69	31.56	31.60	31.60	32.66	33.19	33.19	32.85
	10	32.70	31.82	31.71	30.72	31.60	34.29	33.28	33.33	33.96	32.94
	25	34.33	32.03	33.10	33.22	33.84	34.36	34.09	34.33	34.45	33.71
	50	34.24	34.33	34.36	34.37	34.36	34.33	34.29	34.09	34.29	34.34
	100	—	34.09	34.38	34.34	34.38	34.09	34.27	34.05	33.98	34.36
	150	—	34.04	34.24	34.02	34.18	34.04	34.02	34.05	34.11	34.25
	200	—	34.05	34.05	34.05	34.15	34.09	—	34.05	34.04	34.20
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—	—	—	—
Sounding (m)		60	—	—	—	—	—	—	—	171	—
Transp. (m)		—	—	—	—	—	—	4.5	5	6.0	—
Color		5	—	—	—	—	—	6.0	4.0	4.5	—
Wave		4	—	—	—	—	—	2	2	2	—
Swell		2	2	1	1	1	1	1	1	1	1
Air Temp. (°C)		24.5	24.5	25.5	25.5	25.0	25.5	25.0	26.7	26.5	23.3
Air Press. (mm)		758.5	758.5	759.0	759.0	759.0	759.0	759.0	759.0	759.0	758
Wind		NE.5	E.4	E.3	E.3	E.3	E.3	SE.2	SE.2	SE.2	SW.1
Cloud		Cu.10	—	—	—	—	—	Sc.9	Ac.8	Cb.5	—
Weather		C	—	—	—	—	—	C	BC	BC	B

August 1960									
16 37°25' 129°47'	17 37°29' 129°30'	18 37°32' 129°14'	19 37°44' 129°11'	20 37°53' 129°14'	21 38°02' 129°16'	22 38°12' 129°20'	23 38°12' 129°08'	24 38°12' 128°56'	25 38°12' 128°44'
25	25	25	25	25	25	25	24	24	24
2345	2150	1945	0640	0420	0215	0020	2205	2015	1818
24.80	24.40	21.90	21.40	22.40	21.70	22.40	22.60	22.40	23.90
24.07	21.90	21.00	17.50	20.60	21.30	22.10	22.50	21.42	21.80
22.04	15.02	14.70	11.40	12.30	16.80	19.70	12.10	13.38	16.70
16.50	12.70	7.20	7.60	6.40	7.10	10.00	11.32	7.10	8.90
14.03	5.18	2.62	4.00	3.30	3.05	5.15	4.20	4.50	4.95
9.04	4.03	1.38	2.25	3.20	2.10	2.80	2.53	1.68	2.50
4.10	3.10	1.20	1.60	1.40	—	—	1.30	1.50	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
33.89	31.83	33.19	33.37	33.24	33.87	—	33.82	34.36	33.30
32.05	33.64	33.21	33.57	33.64	33.95	33.03	33.73	34.40	33.42
32.11	34.33	34.07	34.16	34.16	34.07	34.05	34.40	34.38	33.95
34.25	34.22	33.95	34.13	33.78	33.98	34.31	34.43	34.15	34.34
34.38	33.89	33.87	33.93	34.00	33.80	33.93	34.00	33.96	33.91
33.89	33.80	33.82	33.89	33.89	33.80	33.80	33.93	34.00	34.00
33.86	33.82	33.89	33.84	33.84	—	—	33.95	34.00	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	15.0
—	—	—	—	—	—	—	—	—	4
—	—	1	1	—	—	—	—	3	3
1	1	1	1	1	1	1	1	1	1
23.8	22.3	23.0	22.0	22.5	22.5	22.5	23.2	23.5	26
758	757	757	757	758	758	757	757	755	—
NE.2	N.1	N.1	W.1	SW.2	S.1	S.2	S.3	SE.3	—
—	—	Ac.9	Ns.3	—	—	—	—	Cb.5	—
B	B	C	BC	B	B	B	BC	BC	—

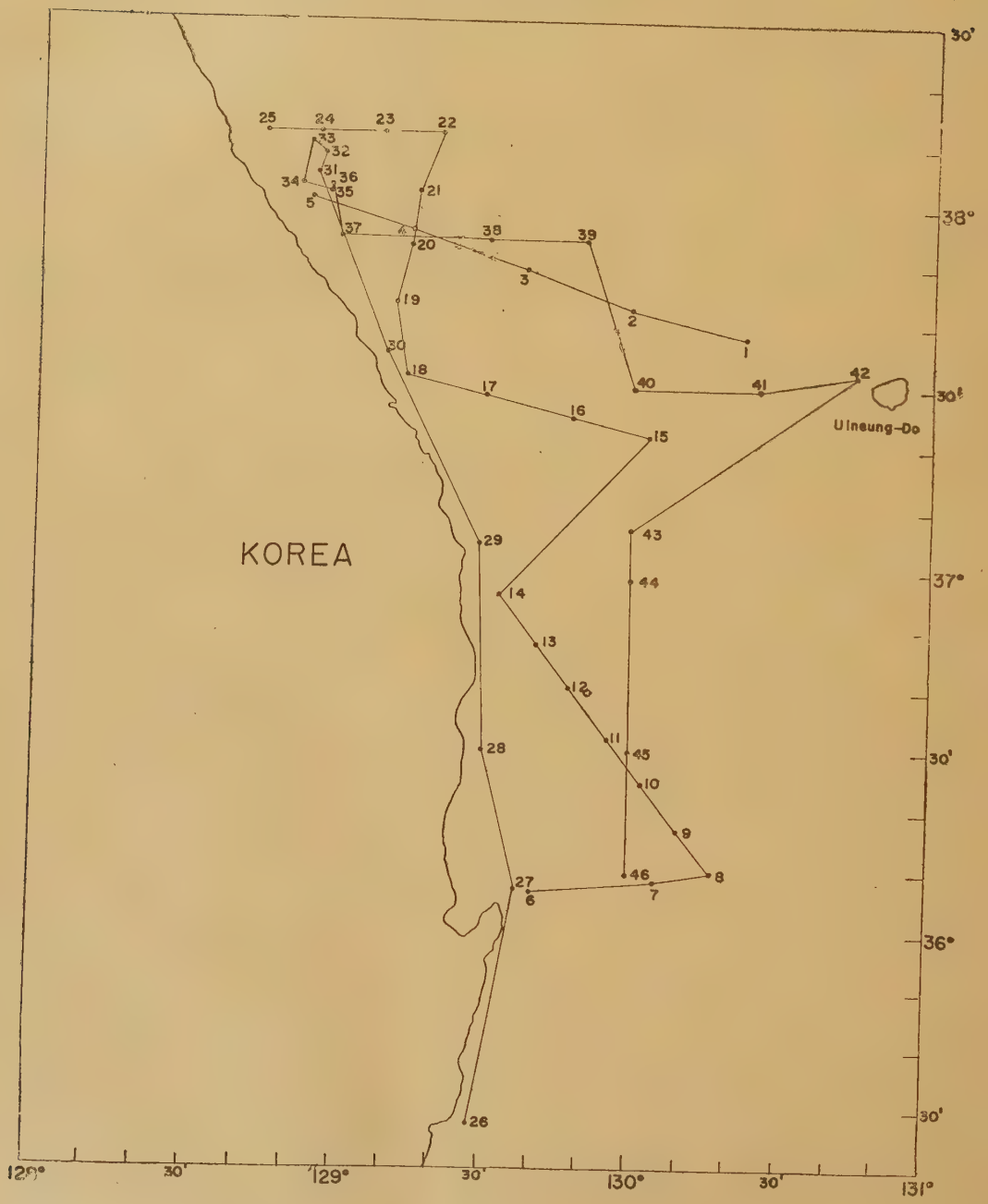
Date	③ September 1960				
Sta. No.	26 35°28' 129°28'	27 36°07' 129°37'	28 36°30' 129°30'	29 37°04' 129°29'	30 37°36' 129°10'
Day	5	6	6	6	6
Item \ Time / Z(m)	2050	0130	0440	1937	2345
T °C 0	24.50	24.90	25.50	22.90	23.10

Date	September 1960						
Sta. No.	31 38°05' 128°55'	32 38°08' 128°56'	33 38°10' 128°54'	34 38°03' 128°52'	35 38°02' 128°58'	36 38°03' 128°58'	37 37°54' 129°00'
Day	11	10	10	7	7	8	12
Item \ Time / Z(m)	1710	1750	1820	1920	2010	1815	1215
T °C 0	22.70	22.50	22.40	22.60	22.60	22.50	23.50
T °C 10	22.30	22.30	22.30	20.70	14.18	22.53	—
T °C 25	17.30	14.80	15.30	12.40	20.71	19.37	—
T °C 50	8.60	8.20	7.20	8.50	—	8.10	—
Sounding (m)	—	—	—	—	91.4	—	—
Transp. (m)	—	—	—	—	—	10	—
Color	3	—	—	—	—	4	—
Wave	3	3	3	—	2	2	—
Swell	1	1	1	—	1	1	—
Air Temp. (°C)	23.5	23.5	22.7	—	—	—	—
Air Press. (mm)	761.5	761.5	760.1	—	—	—	—
Wind	SE.4	SE.4	SE.3	—	W.2	NE.2	—
Cloud	Cu.2	Cu.2	St.2	—	Sc.5	Cu.2	—
Weather	B	B	B	—	BC	B	—

Date		③ September 1960								
Sta. No.		38 37°54' 129°30'	39 37°54' 129°50'	40 37°30' 130°00'	41 37°30' 130°25'	42 37°32' 130°45'	43 37°07' 130°00'	44 36°58' 130°00'	45 36°30' 130°00'	46 36°10' 130°00'
Day		12	12	13	13	13	16	16	16	17
Item	Time / Z(m)	1520	1915	0010	0400	1100	0130	0545	0800	0930
T °C	0	22.80	24.60	24.00	24.50	24.80	24.50	24.00	24.30	24.00
	10	22.31	23.80	22.30	25.12	24.38	—	24.12	24.10	23.10
	25	13.58	14.80	21.20	24.80	23.15	—	18.10	23.90	18.61
	50	7.60	14.82	11.81	—	17.40	19.72	—	18.17	15.20
	100	2.30	5.20	—	14.53	12.30	14.20	—	11.48	12.00
	200	0.99	1.24	—	2.54	8.98	—	—	8.85	3.00
	300	—	—	2.68	—	2.68	—	—	3.70	1.37
	400	0.23	—	—	—	—	—	—	1.00	—
	600	0.37	0.54	0.50	0.52	1.10	—	—	—	—
S ‰	0	33.37	32.23	32.66	32.34	32.72	32.77	34.04	33.03	31.78
	10	33.42	32.25	32.68	32.81	32.94	32.77	32.97	32.90	31.80
	25	34.15	33.12	33.66	33.33	33.78	33.08	34.18	33.24	33.51
	50	34.04	34.27	34.22	34.27	34.29	33.93	—	34.25	34.40
	100	33.98	34.04	33.96	34.40	—	34.38	—	34.43	—
	200	34.00	33.96	33.96	33.98	34.13	—	—	34.18	33.51
	300	34.04	34.00	34.04	33.98	33.91	—	—	33.96	33.91
	400	33.93	33.98	33.98	33.96	33.96	—	—	33.96	33.87
	600	33.98	34.04	33.98	33.98	33.98	—	—	33.96	—
Sounding (m)		—	—	—	—	—	—	—	—	—
Transp. (m)		13	—	—	—	25	—	—	17	13
Color		3	—	—	—	2	—	—	2	4
Wave		1	2	1	0	1	5	3	2	2
Swell		1	1	1	1	1	1	1	1	1
Air Temp. (°C)		—	27.0	26.0	25.0	27.5	25.5	23.8	26.0	26.0
Air Press. (mm)		765	764	764	764	765	767	768	779	770
Wind		N.2	N.2	SW.2	0	SE.2	N.5	N.5	NW.1	E.3
Cloud		Ac.3	Cc.3	Ci.1	0	Cc.2	Sc.4	Cu.3	Cc.2	Cs.9
Weather		BC	BC	B	B	B	BC	BC	B	C

第1圖　江原，慶北近海　海洋觀測點位置圖（4～9月）

Fig. 1. Station Locations, East Coast (April～September)



B. 迎 日 灣, 10~11月 (第 2 圖)

YOUNGIL-MAN; OCTOBER~NOVEMBER (Fig. 2)

Date		① October 1960					
Sta. No.		1 36°03' 129°23'	2 36°01' 129°28'	3 36°03' 129°29'	4 36°05' 129°27'	5 36°05' 129°32'	6 36°07' 129°34'
Day		10	10	10	10	10	10
Item	Time / Z(m)	1240	1323	1350	1445	1645	1605
T °C	0	20.8	20.2	20.2	20.7	20.4	20.9
	10	—	20.4	20.5	21.0	21.0	20.7
	25	—	—	—	—	21.3	20.8
	50	—	—	—	—	—	8.7
	Botm.	20.6	21.0	21.2	21.3	20.1	8.7
S ‰	0	—	—	—	—	—	—
	10	—	—	—	—	—	—
	25	—	—	—	—	—	—
	50	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Sounding (m)		8	17	21	24	35	55
Transp. (m)		4	4	5	6	5	7
Color		5	5	5	4	4	4
Wave		4	4	4	5	5	5
Swell		1	2	2	3	3	3
Air Temp. (°C)		21.6	20.5	20.9	20.6	20.7	20.9
Air Press. (mm)		—	—	—	—	—	—
Wind		N.4	N.4	N.4	N.5	N.5	N.5
Cloud		Si.2	Ci.1	Ci.2	Cc.5	Cc.8	Cc.7
Weather		B	B	B	BC	C	BC

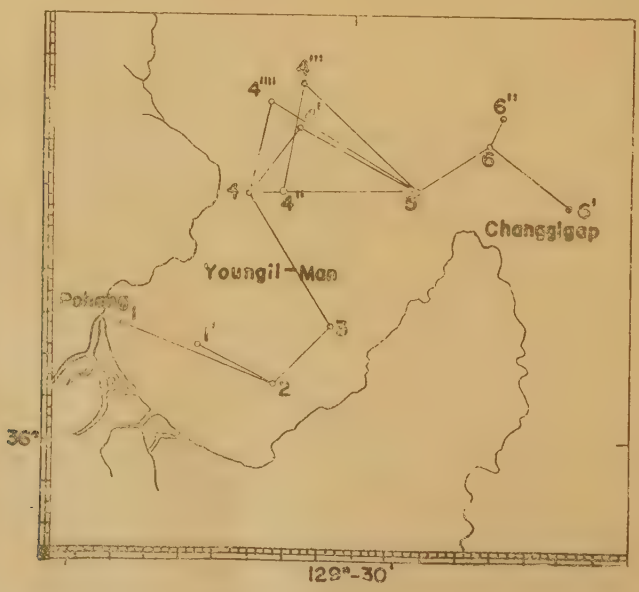
Date		② October 1960						
Sta. No.		1 36°02' 129°26'	2 36°01' 129°28'	3 36°03' 129°29'	4 36°06' 129°28'	4' 36°07' 129°28'	5 36°06' 129°32'	6 39°07' 129°34'
Day		22	22	22	22	22	22	22
Item	Time / Z(m)	1640	1610	1540	1450	1420	1335	1300
T °C	0	19.7	19.7	19.9	20.3	20.7	20.3	20.7
	10	19.7	19.9	19.9	20.5	20.8	20.4	20.7
	25	—	—	—	—	—	20.7	20.8
	50	—	—	—	—	—	—	11.4
	Botm.	19.8	20.8	20.5	20.8	20.7	19.7	11.4
S ‰	0	32.38	31.37	31.98	—	—	32.90	33.12
	10	32.56	33.12	32.56	33.44	33.39	33.03	33.48
	25	—	—	—	—	—	33.40	33.74
	50	—	—	—	—	—	—	34.47
	Botm.	32.47	32.29	33.12	33.48	33.39	33.60	—
Sounding (m)		15	18	23	23	27	32	52
Transp. (m)		4	4	5	4	4	4	4
Color		7	7	5	4	4	4	4
Wave		4	3	3	4	4	4	4
Swell		1	1	2	2	2	2	2
Air Temp. (°C)		17.7	19.3	19.4	20.0	19.0	19.8	19.4
Wind		N.4	N.3	N.3	N.4	N.4	N.4	N.4
Cloud		Cu.4	Cu.3	Cu.3	Cu.2	Cu.2	Cu.2	Cu.2
Weather		BC	B	B	B	B	B	B

③ October 1960							
1	2	3	4''	4'''	5	6	6'
36°02' 129°26'	36°01' 129°28'	36°03' 129°29'	36°06' 129°28'	36°08' 129°29'	36°06' 129°32'	36°07' 129°34'	39°09' 129°36'
29	29	29	29	29	29	29	29
1042	1115	1145	1225	1304	1350	1420	1450
18.4	18.0	18.4	19.5	19.7	18.9	19.1	20.0
18.9	18.5	18.6	19.7	20.0	19.6	19.4	20.0
—	—	—	—	20.2	20.2	19.7	19.5
—	—	—	—	—	—	13.5	16.1
19.6	19.1	19.1	20.1	20.4	20.2	13.5	11.2
32.11	31.26	32.30	33.13	33.62	32.52	33.22	33.75
32.56	32.07	32.39	33.40	33.66	33.35	33.30	33.78
—	—	—	—	33.75	33.66	34.58	33.75
—	—	—	—	—	—	—	34.38
33.17	—	32.77	33.69	33.75	32.95	—	34.51
16	17	23	23	30	28	52	62
2	2	2	2.5	3	2	3	5
8	8	8	7	6	9	8	6
2	2	2	3	3	3	3	4
1	1	1	2	2	2	2	2
17.0	18.0	17.3	17.3	18.8	18.1	18.2	19.3
S.2	S.2	S.2	W.4	W.4	W.4	W.4	W.4
Ns.9	Ns.9	Ns.9	Cb.10	Cb.9	Cb.8	Cb.9	Cb.9
C	C	C	C	C	C	C	C

Date		④ November, 1960							
Sta. No.		1' 36°02' 129°26'	2 36°01' 129°28'	3 36°03' 129°29'	4 36°06' 129°28'	4'''' 36°08' 129°30'	5 36°06' 129°32'	6 36°07' 129°34'	7 36°08' 129°34'
Day		7	7	7	7	7	7	7	7
Item	Time / Z(m)	1056	1130	1209	1740	1655	1255	1525	1060
T °C	0	20.0	19.10	19.30	19.6	20.1	19.8	19.9	20.4
	10	21.4	19.50	19.6	19.8	20.0	19.8	19.8	20.4
	25	—	—	—	16.9	19.9	19.6	19.6	20.2
	50	—	—	—	—	—	—	—	—
	Botm.	22.2	20.0	20.0	16.9	12.0	16.6	11.6	12.7
S ‰	0	32.85	32.95	33.15	33.42	—	33.59	33.50	33.66
	10	33.22	33.22	33.26	33.50	33.59	33.50	33.51	33.59
	25	—	—	—	—	33.71	33.64	33.50	33.59
	50	—	—	—	—	—	—	—	—
	Botm.	33.40	33.46	33.59	32.92	34.20	33.96	34.47	33.07
Sounding (m)		16	18	24	28	43	34	50	55
Transp. (m)		3	7	6	—	—	7	7	7
Color		9	7	7	—	—	6	4	4
Wave		4	4	4	3	3	3	3	3
Swell		1	1	1	2	2	2	2	2
Air Temp.(°C)		20.2	18.5	17.5	17.5	19.1	18.6	19.5	18.5
Wind		S.4	S.4	S.4	W.4	SW.4	SW.4	SW.4	SW.4
Cloud		Ci.4	Ci.6	Ci.8	Ci.2	Ci.4	Ci.8	Ci.8	Ci.8
Weather		BC	BC	C	B	BC	C	C	C

第2圖　迎日灣　海洋觀測點位置圖（10～11月）

Fig. 2. Station Locations, Youngil-Man (Oct.～Nov.)



C. 江原, 慶北近海, 10~12月 (第3圖)

EAST COAST, OCTOBER~DECEMBER (Fig. 3)

Date		① October 1960				
Sta. No.		1 36°08' 129°40'	2 36°07' 129°52'	3 36°08' 130°05'	4 36°10' 130°17'	5 36°17' 130°10'
Day		23	23	23	23	23
Item	Time / Z(m)	0950	1130	1335	1520	1725
T °C	0	21.60	22.90	20.60	20.50	20.50
	10	21.20	22.50	20.05	20.23	20.20
	25	21.05	21.90	20.02	20.03	20.10
	50	17.85	21.00	19.65	19.95	19.95
	100	6.95	19.60	15.45	15.00	14.65
	150	—	—	9.60	10.15	9.00
	200	—	—	—	3.50	—
	Botm.					
S ‰	0	33.73	—	32.94	33.12	33.03
	10	33.64	34.16	33.03	33.12	33.03
	25	33.68	34.07	33.96	33.12	33.46
	50	33.95	34.07	33.21	33.15	33.78
	100	34.25	34.49	34.52	34.58	34.54
	150	—	—	34.36	34.38	34.34
	200	—	—	—	34.16	—
	Botm.					
Sounding (m)		—	—	—	—	—
Transp. (m)		12.0	19.5	24.5	25.5	—
Color		4	3.5	3	3	—
Wave		2	3	2	3	—
Swell		1	1	1	1	1
Air Temp.(°C)		19.0	19.2	20.5	19.5	17.7
Air Press.(mm)		771.0	770.0	769.5	770.0	770.0
Wind		NE.2	NE.2	NE.2	NE.2	E.2
Cloud		Cc.4	Cc.7	Ns.2	Ns.2	—
Weather		BC	BC	B	B	—

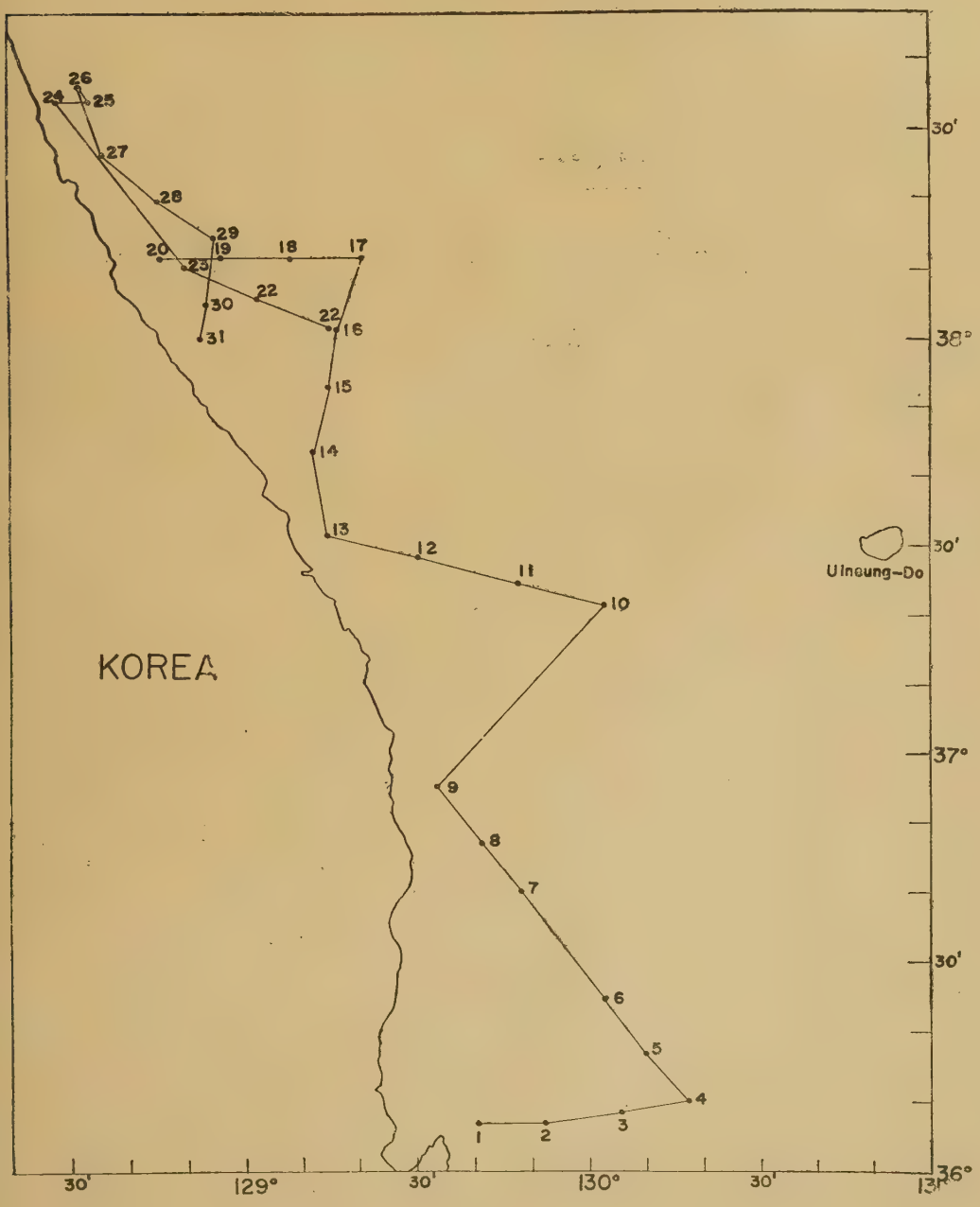
Date		October 1960								
Sta. No.		6 36°25' 130°02'	7 36°41' 129°40'	8 36°48' 129°41'	9 36°56' 129°33'	10 37°22' 130°03'	11 37°25' 129°47'	12 37°29' 129°30'	13 37°32' 129°14'	14 37°44' 129°11'
Day		23	23	24	24	29	29	29	29	30
Item	Time / Z(m)	1910	2210	0010	0155	1545	1730	1910	2100	0135
T °C	0	20.70	22.20	22.20	22.10	19.70	19.80	20.20	17.30	17.20
	10	20.20	21.60	21.40	21.95	19.30	19.45	20.30	17.20	17.20
	25	20.20	21.30	21.00	21.75	19.30	19.40	20.15	16.65	16.75
	50	18.70	17.65	17.30	13.00	17.55	17.10	16.10	9.50	11.30
	100	14.20	8.10	7.10	3.45	12.50	11.50	6.85	3.70	4.10
	150	6.40	—	—	—	9.70	3.80	2.80	2.20	1.60
	200	—	—	—	—	—	—	—	—	—
	Botm.									
S ‰	0	33.21	33.86	33.91	34.00	33.35	33.42	33.69	33.22	33.22
	10	33.19	33.82	33.87	34.02	33.26	33.42	33.78	33.42	33.21
	25	33.28	33.91	33.95	34.00	34.24	33.42	33.96	33.39	33.19
	50	34.11	34.16	34.47	34.34	34.25	34.25	34.05	34.40	34.31
	100	34.61	34.36	34.40	34.15	34.67	34.54	34.42	34.60	34.24
	150	34.33	—	—	—	34.49	34.29	34.20	34.24	34.18
	200	—	—	—	—	—	—	—	—	—
	Botm.									
Sounding (m)		—	—	—	—	—	—	—	—	—
Transp. (m)		—	—	—	—	19.5	—	—	—	—
Color		—	—	—	—	3	—	—	—	—
Wave		—	—	—	—	2	—	—	—	—
Swell		1	1	1	1	1	1	1	1	1
Air Temp. (°C)		17.50	16.30	16.50	15.80	15.5	13.5	14.0	14.3	13.2
Air Press. (mm)		777.0	770.0	770.0	769.5	768.5	769.0	769.0	769.0	769.0
Wind		E.2	NW.2	NW.1	NW.1	SW.1	SW.2	SW.2	SW.2	SW.1
Cloud		—	—	—	—	Ac_9	—	—	—	—
Weather		—	—	—	—	—	—	—	—	—

October 1960						② December 1960		
15	16	17	18	19	20	21	22	23
37°53' 129°14'	38°02' 129°16'	38°12' 129°24'	38°12' 129°08'	38°12' 128°56'	38°12' 128°44'	38°02' 129°15'	38°06' 129°02'	38°10' 128°49'
31	31	31	31	31	31	15	15	15
0320	0455	0635	0815	0950	1140	1820	2020	2215
16.90	16.60	17.30	16.60	16.10	16.90	14.90	14.80	11.80
16.35	16.40	16.90	16.15	15.60	16.80	14.90	14.80	11.70
16.80	15.40	16.30	13.90	15.20	15.40	14.70	14.60	11.05
6.60	7.70	7.90	6.60	5.70	7.10	14.12	12.03	10.40
2.80	2.85	3.45	2.90	3.10	2.45	7.10	4.03	2.80
—	1.40	1.30	1.60	1.80	1.50	2.45	1.95	1.10
—	—	—	—	—	—	1.70	1.30	—
33.53	33.69	33.48	33.48	33.60	33.35	30.37	28.50	32.57
33.51	33.57	33.62	33.51	33.69	33.48	34.07	29.45	34.02
33.71	34.02	33.50	34.05	33.78	33.60	34.05	26.44	34.18
34.24	34.42	34.40	34.24	34.24	34.33	34.09	34.09	26.94
34.24	34.24	34.27	34.31	34.22	34.18	34.78	32.77	29.42
—	34.31	34.24	34.24	34.20	34.22	34.02	31.60	—
—	—	—	—	—	—	29.22	25.55	—
—	—	—	—	—	—	—	—	—
—	—	14	17	13.5	13	—	—	—
—	—	3.5	3.5	4	4	—	—	—
—	—	2	2	2	1	—	—	—
1	1	1	1	1	1	2	1	1
13.6	13.7	14.7	14.8	16.3	17.8	6.0	7.3	4.1
769.0	769.0	769.0	769.0	769.0	768.5	770.0	770.0	770.0
SW.2	—	W.2	W.2	W.1	SE.1	N.3	W.2	W.2
—	—	Ns.2	Ns.3	Cb.5	Ac.9	—	—	—
—	—	B	BC	BC	C	—	—	—

Date		② December 1960							
Sta. No.		24 38°35′ 128°25′	25 38°35′ 128°30′	26 38°38′ 128°28′	27 38°27′ 128°35′	28 38°21′ 128°45′	29 38°15′ 128°55′	30 38°05′ 128°53′	31 38°05′ 128°52′
Day		17	17	19	21	21	21	21	21
Item	Time / Z(m)	0800	0855	0830	0705	0950	1035	1230	1340
T °C	0	12.90	13.30	11.30	9.80	13.60	12.30	11.90	12.30
	10	10.15	12.60	11.00	9.15	12.75	12.20	10.95	11.50
	25	10.00	11.80	7.30	9.00	12.70	11.80	10.80	11.50
	50	9.30	11.25	0.20	7.10	6.32	6.70	9.85	11.45
	100	—	2.30	—	3.20	1.90	2.30	1.90	2.70
	150	—	0.70	—	1.40	1.25	1.05	1.20	1.25
	200	—	—	—	—	1.20	0.70	0.90	0.95
	Botm.								
S ‰	0	34.25	34.25	34.11	34.02	34.29	34.31	34.29	34.27
	10	34.20	34.25	34.11	34.02	34.29	34.38	34.22	34.34
	25	34.02	34.20	34.11	34.02	34.38	34.38	34.22	—
	50	30.82	34.09	34.11	34.02	—	34.18	34.29	34.34
	100	—	34.02	34.11	34.07	—	34.02	—	—
	150	—	34.02	—	34.02	34.02	34.02	34.00	34.02
	200	—	—	—	—	34.02	34.02	34.04	34.21
	Botm.								
Sounding (m)		53	170	137	134	—	—	—	—
Transp. (mm)		17.0	16.5	16.5	—	15.0	15.0	15.5	17.0
Color		3	3	3	—	4	3	3	3
Wave		2	3	2	3	3	3	2	2
Swell		1	2	1	1	1	1	1	1
Air Temp. (°C)		4.0	4.5	2.5	−1.5	0.2	0.2	3.2	6.5
Air Press. (mm)		770.0	770.0	769.5	770.0	770.0	770.0	769.0	768.0
Wind		W.3	W.4	W.2	W.3	NE.2	NE.2	NE.2	NE.1
Cloud		Cu.10	Cu.8	0	Cc.1	Ns.1	Ns.1	0	0
Weather		C	C	B	B	B	B	B	B

第3圖　江原，慶北近海　海洋觀測點位置圖（10～12月）

Fig. 3. Station Locations, East Coast (October～December)



2. 南海 海洋觀測成績

OCEANOGRAPHIC DATA, SOUTH COAST

A. 南海島近海, 4～5月 (第4圖)

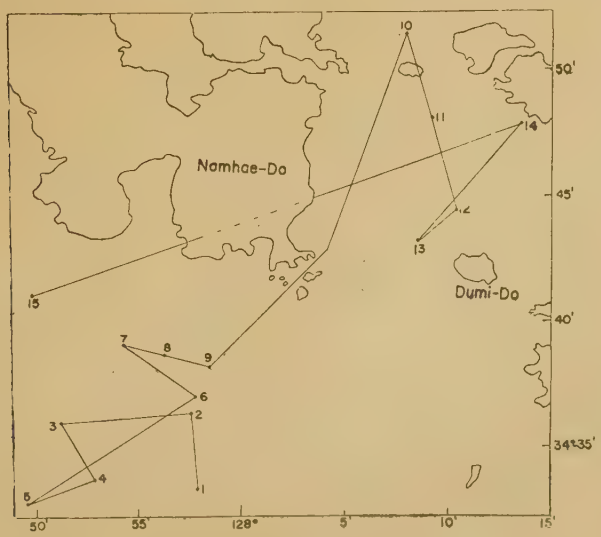
SOUTH COAST, APRIL~MAY (Fig. 4)

Date		① April 1960								
Sta. No.		1 34°33′ 127°50′	2 34°24′ 127°58′	3 34°36′ 127°52′	4 34°34′ 127°53′	5 34°33′ 127°50′	6 34°37′ 127°58′	7 34°39′ 127°34′	8 34°39′ 127°57′	9 34°38′ 127°59′
Day		18	18	21	22	23	23	25	26	27
Item	Time / Z(m)	0505	1835	0505	435	0505	1805	1824	1915	1920
T °C	0	12.40	13.00	12.70	13.00	13.20	15.00	15.00	14.60	14.00
	10	12.40	12.90	12.70	13.00	13.50	12.70	13.10	13.60	13.70
	25	—	12.70	—	—	—	—	—	—	—
	Botm.	12.40	12.50	12.70	13.00	13.20	12.40	12.60	12.90	13.50
S ‰	0	34.22	34.34	—	—	—	33.82	34.13	33.55	33.73
	10	34.20	34.34	—	—	—	34.15	34.05	33.80	33.93
	25	—	—	—	—	—	—	—	—	—
	Botm.	34.34	34.36	—	—	—	34.13	34.09	34.02	—
Sounding (m)		30	49	19	27	26	27	25	25	27
Transp. (m)		—	—	—	—	—	—	—	—	—
Color		—	—	—	—	—	—	—	—	—
Wave		1	—	—	—	—	—	—	—	—
Swell		1	—	—	—	—	—	—	—	2
Air Temp. (°C)		9.2	14.7	—	—	—	19.7	—	—	—
Air Press. (mm)		762	762.5	—	—	757	756.3	750.5	760.0	750
Wind		N.3	SE.1	W.1	WSW.2	—	—	—	SE	NE.3
Cloud		Cu.1	0	0	0	0	0	0	Cu.9	Cu.9
Weather		B	B	B	B	B	B	B	C	C

Date		② May 1960					
Sta. No.		10 34°51' 128°08'	11 34°18' 128°09'	12 34°44' 128°11'	13 34°43' 128°08'	14 34°48' 128°13'	15 34°41' 127°50'
Day		5	6	7	8	10	12
Item	Time / Z(m)	1830	1830	1905	1820	1830	1830
T °C	0	16.40	15.60	15.90	17.30	15.90	16.70
	10	14.80	15.00	14.80	15.60	15.60	15.60
	25	—	—	—	—	—	—
	Botm.	14.60	13.10	13.70	14.80	14.20	14.90
S ‰	0	33.55	34.00	33.77	34.00	33.91	33.68
	10	33.82	34.02	34.18	33.93	34.04	34.91
	25	—	—	—	—	—	—
	Botm.	34.13	34.15	34.20	34.20	34.09	34.00
Sounding (m)		21.5	25	29	29	26	21
Transp. (m)		—	—	—	—	—	—
Color		—	—	—	—	—	—
Wave		—	—	—	—	—	—
Swell		—	—	—	—	—	—
Air Temp. (°C)		16.7	16.05	16.7	17.4	—	18.0
Air Press. (mm)		754	755	757	776.3	753.3	756.0
Wind		S.2	SSE.1	S.1	—	NNE.1	S.2
Cloud		Ns.10	Ns.10	As.4	Cu.5	Ci.6	Cb.10
Weather		C	R	BC	BC	BC	C

第 4 圖　南海島近海　海洋觀測點位置圖（4～5月）

Fig. 4. Station Locations, South Coast (April~May)



B. 南 海 岸, 5～7月 (第5圖)

SOUTH COAST, MAY～JULY (Fig. 5)

Date		① May 1960					
Sta. No.		C_{23} 34°38' 127°55'	C_{24} 34°34' 128°03'	C_{25} 34°29' 127°55'	S_1 33°45' 127°55'	S_2 33°52' 127°39'	S_3 33°57' 127°29'
Day		18	18	18	19	19	19
Item	Time / Z(m)	05 0850	0935	1130	1717	1935	2125
T °C	0	17.70	17.00	17.70	17.00	16.30	15.70
	10	15.90	15.50	17.10	16.60	15.80	15.50
	25	—	14.40	—	16.10	15.20	15.20
	50	—	—	—	15.80	15.60	15.50
	Botm.	15.20	14.40	14.50	15.60	15.90	15.50
S ‰	0	31.40	33.71	32.63	34.56	34.25	34.25
	10	33.77	33.96	33.37	34.52	34.31	34.22
	25	—	34.05	—	34.61	34.36	34.34
	50	—	—	—	34.65	34.61	34.49
	Botm.	33.91	34.05	34.00	34.16	34.67	34.49
Sounding (m)		23	23	27	89	90	76
Transp.(m)		5	8	9	9	6	—
Color		—	—	—	—	—	—
Wave		2	2	3	2	1	1
Swell		2	2	3	3	2	2
Air Temp.(°C)		18.5	17.9	18.2	15.7	15.3	14.0
Air Press.(mm)		748	748	747	747.6	749	749
Wind		SSE.1	SSE.2	SE.4	ENE.2	WSW.1	WSW.1
Cloud		Ns.10	Ns.10	Ns.10	Cu.3	Cu.3	Cu.4
Weather		R	R	R	BC	BC	BC

Date		May 1960								
Sta. No.		S_4 33°59' 127°23'	S_5 34°09' 127°16'	S_6 34°06' 127°17'	S_7 34°20' 127°19'	S_8 34°23' 127°22'	S_9 34°27' 127°25'	S_{10} 34°33' 127°35'	S_{11} 34°37' 127°50'	S_{12} 34°41' 127°42'
Day		19	21	21	21	21	21	21	21	21
Item	Time / Z(m)	2315	0657	0736	0857	0945	1033	1237	1332	1420
T °C	0	16.20	15.00	15.00	15.70	15.70	16.90	17.40	17.30	18.60
	10	15.50	15.00	15.00	15.80	15.30	—	—	—	—
	25	15.60	14.80	15.00	—	—	—	—	—	—
	50	15.50	—	—	—	—	—	—	—	—
	Botm.	15.50	15.30	15.30	15.00	15.10	16.20	16.30	16.50	18.40
S ‰	0	34.18	34.02	33.95	33.60	33.64	33.42	33.37	33.37	33.03
	10	34.29	34.09	33.93	33.84	33.75	—	—	—	—
	25	34.49	34.25	33.95	34.09	—	—	—	—	—
	50	34.40	—	—	—	—	—	—	—	—
	Botm.	34.47	34.43	34.38	33.60	33.46	33.17	—	33.46	33.12
Sounding (m)		75	53	44	25	19	12	13	10	8
Transp. (m)		—	5	4.5	2.5	2	1	3	1.5	1
Color		—	—	—	—	—	—	—	—	—
Wave		1	2	2	2	2	3	1	1	2
Swell		1	1	1	1	1	1	1	—	—
Air Temp.(°C)		16.5	14.6	16.2	16.8	17.5	17.6	18.6	19.5	19.3
Air Press.(mm)		749	753.3	753.5	753.4	753.3	753.2	752.7	752.0	751.5
Wind		WSW.1	W.3	W.3	W.3	W.3	W.3	SW.2	NW.1	NW.4
Cloud		Cu.4	—	—	—	—	—	Cu.2	Cu.3	Cu.3
Weather		BC	B	B	B	B	B	B	BC	BC

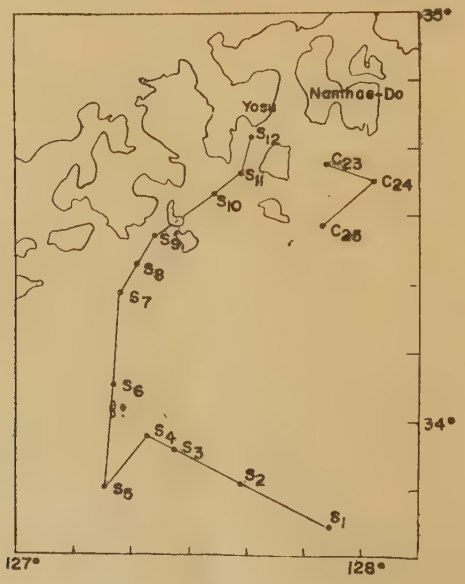
Date		② June 1960									
Sta. No.		C_{23} 34°38' 127°55'	C_{24} 34°33' 128°02'	C_{25} 34°29' 127°55'	S_1 33°45' 127°55'	S_2 33°52' 127°39'	S_3 33°57' 127°29'	S_4 33°59' 127°23'	S_5 34°09' 127°16'	S_6 34°06' 127°17'	S_7 34°20' 127°19'
Day		17	17	18	18	18	18	18	19	19	19
Item	Time / Z(m)	1505	1718	1820	1312	1455	1640	1745	0738	0738	0856
T °C	0	20.40	19.60	19.50	19.20	19.20	19.80	19.00	19.00	19.20	19.30
	10	19.00	19.20	18.80	19.10	17.90	18.00	18.60	18.40	18.40	19.70
	25	—	—	17.80	18.20	17.20	17.30	17.50	17.20	17.40	17.90
	50	—	—	—	18.80	16.00	15.70	16.10	—	—	—
	Botm.	18.40	19.10	17.80	15.60	15.80	15.70	15.60	15.70	16.40	17.60
S ‰	0	33.75	34.04	33.68	34.34	34.43	34.16	34.29	34.29	34.49	34.02
	10	33.60	34.07	34.05	34.25	34.25	34.31	34.27	34.15	34.11	34.02
	25	—	—	34.25	34.34	34.22	34.31	34.33	34.24	34.27	34.15
	50	—	—	—	34.24	34.69	34.34	34.45	—	—	—
	Botm.	33.91	34.16	34.31	34.58	34.58	34.51	34.40	34.36	34.36	34.22
Sounding (m)		25	25	32	86	84	73	76	52	42	33
Transp. (m)		8	8	6	18	10	7	8	9	5	3
Color		—	—	—	—	—	—	—	—	—	—
Wave		2	1	1	1	—	—	—	1	1	1
Swell		1	1	1	0	0	0	0	0	0	0
Air Temp.(C)		22.5	22.0	21.0	19.0	22.5	20.0	20.8	19.7	19.5	19.2
Air Press.(mm)		750	750	750.3	753.3	753.3	753.3	752	749	749	749
Wind		SSW.2	SSE.2	SSE.2	SW.1	SW.1	SW.1	—	NNE.1	NE.2	NE.1
Cloud		Ci.1	Ci.1	Cu.1	As.9	Ac.9	Ac.9	Ac.8	St.10	St.10	St.10
Weather		B	B	B	C	C	C	BC	R	R	R

② June 1960					③ July 1960				
S_8 34°23' 127°22'	S_9 34°27' 127°26'	S_{10} 34°33' 127°35'	S_{11} 34°37' 127°40'	S_{12} 34°41' 127°42'	C_{23} 34°38' 127°55'	C_{24} 34°34' 128°13'	C_{25} 34°28' 127°55'	S_1 34°45' 127°56'	S_2 33°52' 127°39'
19	19	19	19	19	13	13	13	15	15
0958	1600	1759	1858	1945	1325	1439	1625	1630	1832
20.00	21.00	20.80	20.80	22.50	23.10	25.30	25.30	25.50	24.50
18.90	—	19.60	—	—	20.40	21.20	22.20	20.00	18.70
—	—	—	—	—	—	18.80	17.80	17.80	16.80
—	—	—	—	—	—	—	—	15.50	15.40
18.80	19.90	19.50	19.60	21.00	19.40	17.80	17.60	15.40	15.30
33.93	33.80	33.66	33.66	33.50	32.43	31.92	31.74	31.76	32.99
33.98	—	33.64	—	—	33.31	33.66	33.60	32.86	33.69
—	—	—	—	—	—	34.04	34.07	34.09	34.09
—	—	—	—	—	—	—	—	34.52	34.45
33.89	33.78	33.62	33.84	33.57	33.62	34.05	34.09	34.58	34.49
17	7	16	12	10	24	35	31	83	84.5
3	3	5	2	2	8	8.5	10	19	15
—	—	—	—	—	—	—	—	—	—
1	0	0	0	0	—	1	1	—	—
0	0	0	0	0	1	1	1	1	1
20.0	21.6	21.0	20.5	19.2	—	26.0	27.6	28.5	26.5
748.8	748.8	748.8	748.0	748.0	752	752	752	755	753.0
NE.2	NE.1	SE.1	E.1	E.1	SW.2	SW.2	SW.3	SW.2	SW.2
St.10	St.1	—	—	—	—	—	—	Sc.3	Sc.3
C	B	C	C	C	C	C	BC	BC	BC

Date		③ July 1960									
Sta. No.		S_3 33°57' 127°29'	S_4 33°59' 127°23'	S_5 34°09' 127°16'	S_6 34°06' 127°17'	S_7 34°20' 127°19'	S_8 34°23' 127°22'	S_9 34°27' 127°25'	S_{10} 34°33' 127°35'	S_{11} 34°37' 127°40'	S_{12} 34°41' 127°42'
Day		15	15	16	16	16	17	17	17	17	17
Item	Time / Z(m)	2020	2122	1450	1440	1615	1747	1827	0910	1005	1055
T °C	0	23.20	22.70	25.50	24.50	23.80	25.80	25.30	25.30	26.00	28.00
	10	18.90	20.00	20.00	19.60	21.00	—	—	—	—	—
	25	16.20	16.70	18.00	17.90	—	—	—	—	—	—
	50	15.60	15.70	—	—	—	—	—	—	—	—
	Botm.	15.50	15.60	16.20	16.20	18.60	21.80	22.20	22.60	22.50	24.10
S ‰	0	32.94	33.60	32.85	32.99	33.73	33.66	33.44	32.63	32.58	32.29
	10	33.73	33.84	33.60	33.62	33.78	—	—	—	—	—
	25	34.04	34.04	33.89	33.78	—	—	—	—	—	—
	50	34.33	34.31	—	—	—	—	—	—	—	—
	Botm.	34.40	34.49	34.22	34.09	33.87	33.60	33.60	33.04	32.86	32.59
Sounding (m)		73	72	52	41	36	12	10	11	10	8
Transp.(m)		12	—	16	8	3	3.5	3	3.7	.5	2.5
Color		—	—	—	—	—	—	—	—	—	—
Wave		—	—	—	—	—	—	—	—	—	—
Swell		1	1	1	1	1	—	—	—	—	—
Air Temp.(°C)		25.0	24.5	27.5	27.0	26.5	27.0	26.6	26.7	27.0	27.4
Air Press.(mm)		753.0	754.3	753	753	753	753	753	752	755.2	755.2
Wind		SW.1	SW.2	NE.2	SE.1	SE.1	SE.2	NE.2	SE.1	SE.1	SE.1
Cloud		Ci.4	Ci.4	As.3	As.3	As.4	As.5	As.5	Sc.3	Sc.2	Sc.1
Weathe r		BC	BC	BC	BC	BC	BC	BC	BC	B	B

第 5 圖　南海岸 海洋觀測點位置圖（5～7月）

Fig. 5. Station Locations, South Coast (May～July)



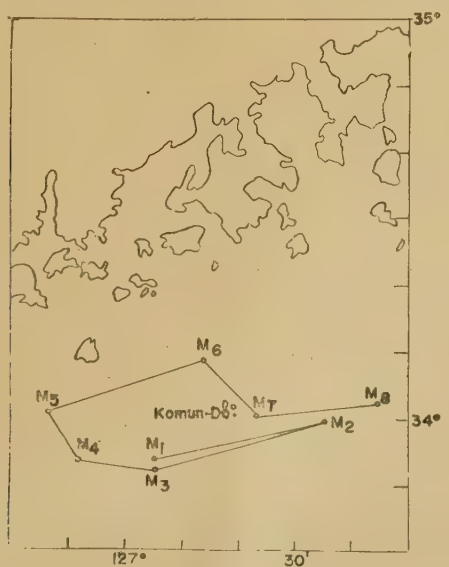
C. 南 海 岸, 9 月 (第 6 圖)

SOUTH COAST, SEPTEMBER (Fig. 6)

Date		① September 1960							
Sta. No.		M1 33°54' 127°05'	M2 34°11' 127°35'	M3 33°54' 127°06'	M4 33°55' 126°52'	M5 34°02' 126°46'	M6 34°09' 127°14'	M7 34°01' 127°23'	M8 34°03' 127°45'
Day		20	21	23	23	23	24	24	24
Item	Time / Z(m)	1510	1710	1740	1950	2205	0316	1913	2320
T °C	0	24.30	24.00	25.00	25.20	22.70	23.50	23.80	25.50
	10	23.80	23.20	23.80	24.30	20.60	22.50	23.50	24.60
	25	22.30	22.00	20.50	25.00	17.00	20.50	19.50	23.70
	50	18.20	16.50	16.40	16.80	—	—	—	17.50
	Botm.	19.90	15.80	15.50	15.80	16.80	17.00	16.00	15.90
S ‰	0	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—	—
Sounding (m)		86	78	78	78	51	46	46	75
Transp. (m)		13	13	9	—	—	—	—	—
Color		—	—	—	—	—	—	—	—
Wave		0	0	1	1	1	1	1	1
Swell		1	1	2	2	2	2	1	1
Air Temp. (°C)		24.0	23.0	27.5	24.8	24.7	25.5	24.2	25.4
Air Press. (mm)		758	759	761	760	760	761	761	761
Wind		NE.2	N.2	SE.3	N.3	N.3	NE.3	NW.2	NW.3
Cloud		Cu.2	Ci.2	Ci.4	Ci.7	Ci.4	Ci.3	Ci.2	Ci.3
Weather		B	B	BC	BC	EC	BC	B	BC

第 6 圖　南海岸 海洋觀測點位置圖 (9月)

Fig. 6. Station Locations, South Coast (September)



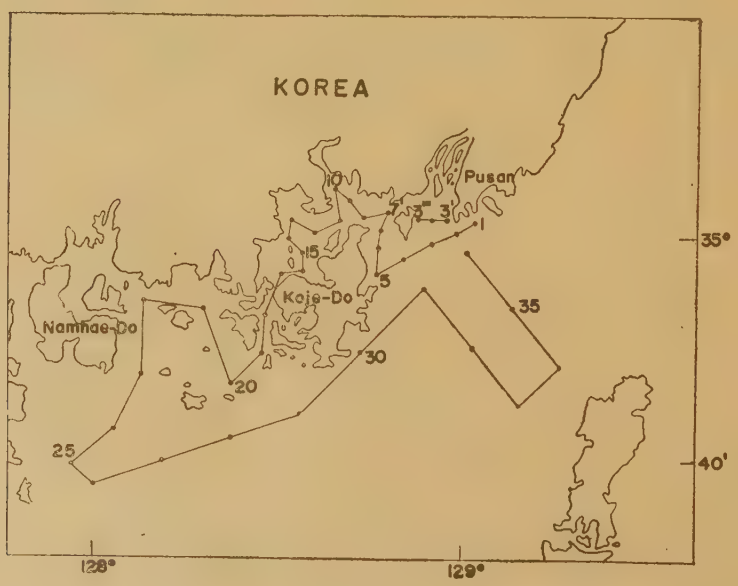
3. 鎭海灣 海洋觀測成績

OCEANOGRAPHIC DATA, CHINHAE-MAN

Date		① January 1960						
Sta. No		1 35°02' 129°01'	2 35°01' 128°59'	3 35°00' 128°55'	3' 35°02' 128°56'	3" 35°02' 128°54'	3''' 35°02' 128°52'	4 34°57' 128°46'
Day		30	30	30	30	30	30	30
Item	Time / Z(m)	1032	1110	1145	1207	1223	1240	1335
T °C	0	12.50	12.40	12.60	11.90	11.50	10.80	12.50
	10	11.78	11.80	11.40	—	—	—	11.40
	Botm.	11.14	11.60	12.10	11.30	10.50	9.36	11.00
S ‰	0	34.45	34.45	34.51	34.11	—	—	34.45
	10	34.43	34.28	34.38	—	—	—	34.38
	Botm.	34.38	34.36	34.38	34.11	—	—	34.29
Sounding (m)		26	34	30	15	14	12	36
Transp. (m)		1.5	1.5	2.5	1	2	1.5	3
Color		7	7	7	7	7	7	4

第7圖 鎭海灣 海洋觀測點位置圖 (1~11月)

Fig. 7. Station Locations, Chinhae-Man (Jan.~Nov.)



Date		① January 1960									
Sta. No.		5 34°55' 128°46'	6 34°59' 128°45'	7 35°02' 128°46'	7' 35°04' 128°48'	8 35°03' 128°43'	9 35°05' 128°41'	10 35°07' 128°38'	11 35°03' 128°39'	12 35°01' 128°35'	13 35°32' 128°32'
Day		30	30	30	30	30	30	31	31	31	31
Item	Time / Z(m)	1415	1445	1525	1601	1640	1705	0430	0510	0540	0615
T °C	0	14.00	9.00	7.90	7.50	7.50	7.50	5.40	6.60	6.00	6.00
	10	13.60	8.10	6.93	—	6.48	—	—	4.20	5.50	—
	Botm.	12.76	8.13	7.30	—	6.62	6.60	6.50	6.60	6.60	6.60
S ‰	0	34.63	33.89	33.59	32.81	33.50	33.37	33.28	33.40	33.06	32.92
	10	34.56	33.84	33.59	—	33.42	—	—	33.40	33.06	—
	Botm.	34.42	33.84	33.64	—	33.53	33.87	33.22	33.42	33.19	32.97
Sounding (m)		26	20	31	5	32	10	11	23	21	15
Transp. (m)		3	1.5	1.5	1.5	1.5	2	—	—	—	—
Color		4	10	10	8	8	8	—	—	—	—

Date		January 1960									
Sta. No.		14 35°00' 128°33'	15 34°58' 128°33'	16 34°56' 128°34'	17 34°56' 128°30'	18 34°50' 128°27'	19 34°46' 128°27'	20 34°41' 128°23'	21 34°51' 128°17'	22 34°52' 128°07'	23 34°42' 128°07'
Day		31	31	31	31	31	31	31	31	31	31
Item	Time / Z(m)	0645	0715	0740	0813	0905	0945	1040	1210	1325	1430
T °C	0	5.70	5.80	5.90	5.90	8.20	10.00	11.50	7.30	6.60	11.50
	10	—	5.09	5.03	—	—	9.40	10.40	—	—	10.80
	25	—	—	—	—	—	—	10.00	—	—	—
	Botm.	6.60	5.34	5.20	5.32	6.60	6.38	9.80	6.20	6.21	10.10
S ‰	0	32.88	32.85	32.85	33.06	33.80	34.02	34.20	33.59	33.46	34.34
	10	—	32.85	32.79	—	—	33.11	34.20	—	—	34.29
	25	—	—	—	—	—	—	34.02	—	—	—
	Botm.	32.88	32.86	32.86	33.06	33.77	34.11	34.02	33.50	33.50	34.38
Sounding (m)		12	23	23	14	13	35	67	17	16	26
Transp. (m)		—	8	7	8	4	2	4	3	2.5	6
Color		—	6	6	6	6	6	5	6	6	6

Date		② January 31～February 1, 1960					
Sta. No.		24 34°32' 128°28'	25 34°35' 128°33'	29 34°37' 128°35'	30 34°44' 128°43'	31 34°50' 128°51'	32 34°43' 128°59'
Day		31	1	1	1	1	1
Item	Time / Z(m)	1610	0815	1000	1125	1240	1400
T °C	0	11.50	12.40	12.40	13.20	13.50	13.30
	10	11.94	11.60	11.19	12.28	12.58	12.38
	25	12.02	11.63	11.78	12.30	13.20	12.30
	50	—	—	—	12.28	12.89	—
	Botm.	11.90	11.29	11.49	12.10	12.49	11.32
S ‰	0	34.45	34.45	34.43	34.54	34.60	34.61
	10	34.42	34.38	34.38	34.54	34.63	34.51
	25	34.40	34.38	34.45	34.42	34.51	34.42
	50	—	—	—	34.42	34.45	—
	Botm.	34.42	34.34	34.42	34.42	34.51	34.36
Sounding (m)		45	42	72	67	57	53
Transp. (m)		4	4	4	3	6	4
Color		6	4	6	5	5	5

Date		③ February 1960							
Sta. No.		1 35°02' 129°01'	2 35°01' 128°59'	3 35°00' 128°55'	3' 35°02' 128°56'	3" 35°02' 128°54'	3"' 35°04' 128°52'	4 34°57' 128°46'	5 34°55' 128°46'
Day		24	24	24	24	24	24	24	24
Item	Time / Z(m)	0655	0735	0805	0825	0845	0905	0955	1035
T °C	0	12.30	11.50	12.00	11.80	11.00	11.30	11.60	12.70
	10	11.40	10.90	11.70	11.03	—	—	11.90	10.30
	25	—	—	—	—	—	—	11.51	—
	Botm.	10.80	11.20	11.62	11.00	10.92	10.70	11.53	12.19
S ‰	0	34.47	34.43	34.56	34.36	33.95	34.04	34.27	34.92
	10	34.43	34.34	34.49	34.34	—	—	34.51	34.70
	25	—	34.40	—	—	—	—	34.52	—
	Botm.	34.45	34.40	34.45	34.49	34.31	34.24	34.51	34.61
Sounding (m)		24	33	30	18	13	12	35	27
Transp. (m)		4	3.5	3.5	3.5	3.5	3	5	5
Color		8	8	8	9	9	8	9	9

Date		February 1960					
Sta. No.		6 34°59' 128°45'	7 35°02' 128°40'	7' 35°04' 128°47'	8 53°03' 128°43'	9 35°05' 128°41'	10 35°07' 128°38'
Day		24	24	24	24	24	24
Item	Time / Z(m)	1110	1142	1215	1245	1315	1343
T °C	0	11.00	9.00	8.50	8.90	8.00	8.20
	10	9.40	7.88	—	7.97	—	—
	Botm.	9.61	8.42	—	7.71	7.80	6.28
S ‰	0	34.42	33.84	33.82	33.75	33.55	33.44
	10	34.25	33.86	—	33.69	—	—
	Botm.	34.22	33.91	—	33.77	33.51	33.37
Sounding (m)		18	27	5	24	19	12
Transp.(m)		4	3	1.5	3.5	3	4
Color		9	9	9	9	9	9

Date		February 1960									
Sta. No.		11 35°03' 128°39'	12 35°01' 128°35'	13 35°03' 128°32'	14 35°00' 128°33'	15 34°58' 128°33'	16 34°56' 128°34'	17 34°56' 128°30'	18 34°50' 128°27'	19 34°46' 128°27'	20 34°41' 128°23'
Day		24	24	24	24	24	24	24	12	24	25
Item	Time / Z(m)	1420	1455	1515	1542	1607	1630	1700	1745	1820	0535
T °C	0	7.90	8.20	7.50	7.50	7.40	7.40	7.90	9.00	10.30	11.00
	10	7.40	7.27	—	8.53	6.50	6.93	—	—	10.40	9.87
	25	—	—	—	—	—	—	—	—	10.32	9.80
	50	—	—	—	—	—	—	—	—	—	9.90
	Botm.	6.24	7.21	7.21	6.28	6.28	6.30	6.30	6.38	10.30	9.80
S ‰	0	33.44	33.48	33.30	32.43	33.19	33.04	33.33	33.56	34.36	34.43
	10	33.46	33.48	—	33.22	33.17	33.06	—	—	34.43	33.38
	25	—	—	—	—	—	—	—	—	34.45	34.36
	30	—	—	—	—	—	—	—	—	—	34.38
	Botm.	33.66	33.50	33.48	33.21	33.21	33.06	33.39	34.04	34.42	34.42
Sounding (m)		22	18	15	22	24	22	14	12	37	65
Transp.(m)		7	5	4	5	4	5	4	—	—	—
Color		8	7	7	7	7	7	7	—	—	—

Date		February 1960								
Sta. No.		21 34°51' 128°17'	22 34°52' 128°07'	23 34°42' 128°07'	27 34°31' 128°11'	28 34°34' 128°23'	29 34°37' 128°35'	30 34°44' 128°43'	31 34°50' 128°51'	36 34°56' 128°58'
Day		25	25	25	25	25	25	25	25	25
Item	Time / Z(m)	0705	0805	0912	1055	1155	1310	1425	1535	1650
T °C	0	8.50	8.40	11.50	12.30	12.30	12.90	13.30	13.50	13.10
	10	—	7.66	10.50	11.60	12.20	12.70	11.90	12.82	12.80
	25	—	—	—	10.80	11.14	11.90	11.89	12.90	12.80
	50	—	—	—	—	—	11.31	12.20	—	—
	Botm.	8.82	7.52	7.58	7.58	7.60	7.60	11.49	12.06	12.07
S ‰	0	33.91	33.87	34.49	34.60	34.69	34.65	34.65	34.74	34.70
	10	33.82	34.87	34.51	34.52	34.52	34.67	34.61	34.61	34.67
	25	—	—	—	34.52	34.52	34.56	34.61	34.67	34.61
	50	—	—	—	—	—	34.58	34.61	—	—
	Botm.	33.82	33.89	34.49	34.49	34.56	34.52	34.56	34.65	34.61
Sounding (m)		16	17	27	—	52	61	61	52	—
Transp. (m)		5	5	6	—	5	7	6	4	—
Color		8	8	7	—	9	9	6	6	—

Date		④ March 1960							
Sta. No.		1 35°02' 129°01'	2 35°01' 128°59'	3 35°00' 128°55'	3' 35°02' 128°56'	3'' 35°02' 128°54'	3''' 35°03' 128°52'	4 34°57' 128°46'	5 34°55' 128°46'
Day		19	19	19	19	19	19	16	16
Item	Time / Z(m)	1700	1615	1440	1555	1530	1515	1200	1240
T °C	0	13.20	13.30	12.70	13.20	13.20	12.90	12.50	13.40
	10	12.46	12.50	11.70	—	—	—	11.32	12.78
	25	—	—	—	—	—	—	11.50	—
	Botm.	12.35	12.30	12.04	12.05	12.22	12.04	8.44	12.70
S ‰	0	34.69	34.60	34.33	34.56	34.47	34.20	34.56	34.72
	10	34.60	34.56	34.27	—	—	—	34.27	34.61
	25	—	—	—	—	—	—	34.29	—
	Botm.	34.61	34.56	34.47	34.52	34.34	34.11	32.68	32.35
Sounding (m)		27	32	26	13	12	12	35	28
Transp. (m)		2.5	3.5	2.8	2.5	2.5	2.8	6	5
Color		9	7	9	8	9	8	8	8

Date		March 1960									
Sta. No.		6 34°59' 128°45'	7 35°02' 128°40'	8 35°03' 128°43'	9 35°05' 128°41'	10 35°07' 128°38'	11 35°03' 128°39'	12 35°01' 128°35'	13 35°03' 128°32'	14 35°00' 128°33'	15 34°58' 128°33'
Day		16	16	16	16	16	16	16	16	16	16
Item	Time / Z(m)	1330	1400	1435	1515	1546	1630	1705	1740	1815	1850
T °C	0	11.60	11.60	10.50	10.40	10.20	9.80	9.20	9.10	9.00	9.10
	10	—	9.98	9.59	—	—	8.98	8.30	—	8.32	8.27
	Botm.	10.90	7.28	9.68	9.53	9.70	9.32	8.30	8.31	8.40	8.28
S ‰	0	34.16	34.04	33.68	33.77	33.68	33.55	33.37	33.33	33.40	33.33
	10	—	33.84	33.66	—	—	33.50	33.33	—	33.30	33.21
	Botm.	33.28	33.84	33.73	33.68	33.59	33.59	33.24	33.26	33.31	33.26
Sounding (m)		17	25	33	9	13	21	21	16	23	23
Transp. (m)		1.5	1.5	1	1.5	5	3	4	3	—	—
Color		10	1	10	9	7	7	5	5	—	—

Date		March 1960									
Sta. No.		16 34°56' 128°34'	17 34°56' 128°30'	18 34°50' 128°27'	19 34°46' 128°27'	20 34°41' 128°23'	21 34°51' 128°17'	22 34°52' 128°07'	23 34°42' 128°07'	27 34°31' 128°11'	28 34°34' 128°23'
Day		16	17	17	17	17	17	17	17	17	17
Item	Time / Z(m)	1925	0630	0720	0800	0855	1625	1515	1355	1215	1055
T °C	0	9.00	10.20	11.20	12.40	12.60	11.30	11.00	12.20	12.40	12.70
	10	8.38	—	—	11.75	11.90	—	—	10.33	12.19	12.30
	25	—	—	—	—	11.58	—	—	—	10.99	11.91
	50	—	—	—	—	11.40	—	—	—	—	—
	Botm.	8.40	9.62	10.40	11.72	11.42	9.94	10.38	10.32	10.92	11.61
S ‰	0	33.33	33.76	34.31	34.58	34.36	34.04	34.00	34.31	34.47	34.60
	10	33.21	—	—	34.51	34.49	—	—	34.25	34.29	34.56
	25	—	—	—	—	34.56	—	—	—	34.29	34.51
	50	—	—	—	—	34.51	—	—	—	—	—
	Botm.	33.28	33.73	34.25	34.56	34.47	34.04	33.80	32.59	34.29	34.52
Sounding (m)		21	13	12	29	64	11	12	28	45	42
Transp. (m)		—	4	4	3.8	5	5	2	3	7	6
Color		—	6	5	6	8	8	10	7	7	7

Date		March 1960							
Sta. No.		29 34°37' 128°35'	30 34°43' 128°43'	31 34°50' 128°51'	32 34°43' 128°59'	33 34°36' 129°08'	34 34°43' 129°15'	35 34°50' 129°07'	36 34°56' 128°58'
Day		18	18	18	19	19	19	19	16
Item	Time / Z(m)	1105	1225	1340	0730	0915	1055	1245	1030
T °C	0	13.60	13.60	14.00	14.60	15.90	15.30	15.50	13.40
	10	13.32	12.72	12.12	14.52	15.67	15.63	14.59	12.64
	25	12.62	12.80	12.78	14.48	13.00	15.66	14.55	12.68
	50	12.82	—	12.80	13.88	15.70	15.69	14.40	—
	100	—	—	—	—	15.60	15.68	—	—
	150	—	—	—	—	—	15.50	—	—
	Botm.	12.59	12.61	12.90	11.39	11.64	15.00	11.70	12.07
S ‰	0	34.67	34.61	34.76	34.81	34.90	34.94	34.83	34.69
	10	34.65	34.65	34.69	34.79	34.76	34.81	34.72	34.60
	25	34.~~8970~~	34.61	34.67	34.78	34.76	34.81	34.81	34.60
	50	34.61	34.61	34.61	34.61	34.78	34.81	34.69	—
	100	—	—	—	—	34.79	34.81	—	—
	150	—	—	—	—	—	34.72	—	—
	Botm.	34.65	34.61	34.65	34.38	34.38	34.47	34.45	34.61
Sounding (m)		70	58	64	98	160	200	106	58
Transp. (m)		6	8	8	10	13	16	14	6
Color		5	7	5	5	4	4	5	9

Date		⑤ June 1960								
Sta. No.		1 35°02' 129°01'	2 35°01' 128°59'	3 35°00' 128°55'	4 34°57' 128°46'	5 34°55' 128°46'	6 34°59' 128°45'	7 35°02' 128°46'	8 35°03' 128°43'	9 35°05' 128°41'
Day		15	15	15	15	15	15	15	15	15
Item	Time / Z(m)	1140	1205	1240	1315	1400	1435	1505	1530	1605
T °C	0	19.00	18.70	19.02	18.90	18.90	19.90	19.00	19.02	20.00
	10	19.38	17.28	18.12	17.90	18.05	18.03	18.10	18.22	—
	25	—	—	—	17.58	—	—	—	—	—
	Botm.	16.52	17.02	17.61	17.19	16.00	17.80	17.73	17.99	19.00
S ‰	0	33.64	33.71	33.64	33.66	33.71	33.53	33.73	33.28	33.13
	15	33.75	34.02	33.57	33 66	33.75	33.50	33.59	33.42	—
	25	—	—	—	34.09	—	—	—	—	—
	Botm.	34.79	34.18	34.11	34.16	34.20	33.66	33.75	33.57	33.19
Sounding (m)		—	—	—	—	—	—	—	10	10
Transp. (m)		4	3.5	4	4.5	3.5	2.5	2.5	2	2
Color		8	8	7	6	6	6	8	8	9
Wave		3	2	2	2	2	2	2	1	1
Swell		1	1	1	1	2	1	1	1	0
Air Temp. (°C)		20	19.5	19	19	19	18.7	20	19	20
Wind		NNE.4	NNE.3	NNE.3	NNE.3	NNE.3	NNE.3	NE.3	NE.3	NE.2
Cloud		As.10	As.10	As.10	As.10	As.10	As.10	As.10	As.10	As.10
Weather		C	C	C	C	C	C	C	C	C

Date		June 1960							
Sta. No.		10 35°07' 128°28'	11 35°03' 128°39'	12 35°01' 128°35'	13 35°03' 128°32'	14 35°00' 128°33'	15 34°58' 128°33'	16 34°56' 128°34'	17 34°56' 128°30'
Day		15	15	15	15	15	15	15	15
Item	Time / Z(m)	1635	1705	1735	1800	1820	1835	1905	1930
T °C	0	20.04	20.01	20.05	20.07	20.06	20.05	20.02	19.09
	10	—	18.70	19.70	—	19.72	19.03	19.23	—
	Botm.	19.30	18.19	18.03	17.81	17.20	17.09	17.62	18.80
S ‰	0	33.04	33.28	33.13	33.13	33.19	33.01	33.04	33.33
	10	—	33.22	33.12	—	33.15	33.08	33.04	—
	Botm.	33.22	33.40	33.35	33.37	33.37	33.31	33.22	33.31
Sounding (m)		12	22	21	18	24	22	25	13
Transp. (m)		2.5	2.5	3	3	2.5	2.5	3.5	3
Color		6	6	5	5	5	5	5	5
Wave		1	1	1	1	1	1	1	1
Air Temp(°°C)		0	0	0	0	0	0	0	0
Air Press. (mm)		19.5	19.5	19.5	19.5	21.5	18.8	18.5	19.5
Wind		NE.2	NE.1	NE.1	NE.1	NE.2	NE.2	NE.2	NE.2
Cloud		Ac.10	As.10	As.10	As.10	As.10	As.10	As.10	As.10
Weather		C	C	C	C	C	C	C	C

Date		June 1960								
Sta. No.		18 34°50' 128°27'	19 34°46' 128°27'	20 34°41' 128°23'	21 34°51' 128°17'	22 34°52' 128°07'	23 34°42' 128°07'	27 34°31' 128°11'	28 34°34' 128°23'	29 34°37' 128°35'
Day		16	16	16	16	16	17	17	17	17
Item	Time / Z(m)	0800	0835	0920	1050	1155	0720	0855	1000	1115
T °C	0	19.08	19.00	19.03	21.03	20.07	20.00	20.00	19.09	19.05
	10	—	17.83	18.08	—	—	18.13	18.40	17.84	17.45
	25	—	—	17.69	—	—	—	18.25	17.32	17.29
	50	—	—	17.40	—	—	—	—	—	17.23
	Botm.	17.28	17.36	17.09	18.23	18.90	17.84	16.87	17.28	17.30
S ‰	0	33.37	33.60	33.64	33.42	33.50	32.95	34.29	34.07	34.13
	10	—	33.86	33.68	—	—	33.44	34.25	34.04	34.02
	25	—	—	33.78	—	—	—	34.31	33.98	34.02
	50	—	—	33.91	—	—	—	—	—	34.04
	Botm.	33.95	33.91	33.96	33.69	33.28	33.98	34.13	34.02	34.02
Sounding (m)		12	26	67	14	15	27	48	52	80
Transp. (m)		1.5	2	3	4	3.5	5	12	10	3.5
Color		7	8	7	8	10	4	5	6	8
Wave		1	1	1	0	1	0	1	1	1
Swell		0	0	1	0	0	0	1	1	1
Air Temp. (°C)		18.5	18.0	19.0	18.4	21	19.3	19.7	21	20.2
Wind		NE.2	NE.2	NE.1	SE.1	S.1	N.1	0	N.1	SW.1
Cloud		0	0	Cc.1	Ac.1	Ac.1	Cs.1	Ci.1	Ci.1	Cs.1
Weather		B	B	B	B	B	B	B	B	B

Date		June 1960						
Sta. No.		30 34°44' 128°43'	31 34°50' 128°51'	32 34°43' 128°59'	33 34°36' 129°08'	34 34°43' 129°15'	35 34°50' 129°07'	36 34°56' 128°58'
Day		17	17	17	17	17	17	17
Item	Time / Z(m)	1235	1350	1510	1635	1750	1920	2030
T °C	0	18.08	19.08	20.05	21.00	21.02	20.02	19.60
	10	17.48	18.42	19.40	21.30	20.28	19.80	19.10
	25	17.32	17.32	18.95	19.92	20.05	18.58	18.09
	50	17.28	16.98	16.19	17.16	19.60	18.17	17.05
	100	—	—	—	15.12	16.08	—	—
	150	—	—	—	—	15.12	—	—
	Botm.	17.30	21.00	15.27	15.08	15.20	15.26	16.91
S ‰	0	34.07	34.20	34.20	34.20	34.24	34.13	34.20
	10	34.04	34.16	34.11	34.11	34.25	34.11	34.16
	25	34.09	34.11	34.07	34.13	34.29	34.11	34.20
	50	34.11	24.27	34.34	34.25	34.38	34.16	34.18
	100	—	—	—	34.47	34.45	—	—
	150	—	—	—	—	34.45	—	—
	Botm.	34.24	34.18	34.49	34.49	34.22	34.52	34.24
Sounding (m)		68	61	101	160	190	100	68
Transp.(m)		4	6	9	13	14	12	—
Color		8	4	2	3	3	3	—
Wave		2	2	2	2	2	2	2
Swell		1	1	1	1	2	2	2
Air Temp.(°C)		19.7	20.5	20.5	21.5	20.7	20	19.5
Air Press.(mm)		—	—	—	—	—	—	—
Wind		SW.2	SW.2	SW.3	SW.3	SW.3	SW.3	SW.3
Cloud		Ci.1	Cc.1	0	Ac.3	Ci.5	Ac.1	0
Weather		B	B	B	B	BC	B	B

Date	⑥ November 1960								
Sta. No.	1 35°02' 129°01'	2 35°01' 128°59'	3 35°00' 128°55'	4 34°57' 128°46'	5 34°55' 128°46'	6 34°59' 128°45'	7 35°02' 128°46'	8 35°03' 128°43'	11 35°03' 128°39'
Day	1	1	1	1	2	2	2	2	2
Item: Time	1502	1525	1545	1710	0625	0710	0737	0820	0900
T °C: 0	20.05	20.40	20.00	20.00	19.00	19.20	19.40	19.20	19.20
T °C: 10	20.28	19.64	19.90	19.37	18.09	16.78	17.60	16.25	—
T °C: 25	—	19.46	—	—	—	—	19.03	19.09	—
T °C: Botm.	19.20	18.89	19.28	18.34	19.30	18.84	19.14	19.26	17.50
Sounding (m)	17	36	23	39	16	22	37	40	22
Transp. (m)	5	4	3	—	—	3.5	5	4	4
Color	6	6	6	—	6	7	7	7	7
Wave	1	1	1	1	2	2	2	2	2
Swell	1	1	1	1	1	1	1	1	1
Air Temp.(°C)	20.5	20	20.0	18.0	13.5	14.3	14.5	15.0	15.5
Air Press.(mm)	771.5	771.5	771.5	771.5	770.5	771	771	771	771.3
Wind	N.1	N.1	N.1	N.1	N.2	NNW.3	N.2	N.2	NNW.2
Cloud	Cu.3	Cu.5	Cu.4	Cc.4	Ci.5	Ci.1	0	0	0
Weather	BC	BC	BC	BC	BC	B	B	B	B

Date	November 1960							
Sta. No.	12 35°01' 128°35'	13 35°03' 128°32'	14 35°00' 128°33'	15 34°58' 128°33'	17 34°56' 128°30'	18 34°50' 128°27'	19 34°46' 128°27'	20 34°41' 128°23'
Day	2	2	2	2	2	2	2	2
Item: Time	0930	1000	1028	1040	1115	1310	1400	1440
T °C: 0	19.10	19.30	19.40	19.50	19.20	19.40	19.70	20.00
T °C: 10	19.42	—	19.90	17.50	—	—	19.49	19.72
T °C: 25	—	—	—	—	—	—	19.20	19.78
T °C: 50	—	—	—	—	—	—	—	18.80
T °C: Botm.	19.09	18.09	19.14	18.87	18.38	19.28	19.22	18.30
Sounding (m)	23	18	24	23	13	11	42	61
Transp. (m)	7	3.5	5	5	5	4	4	6
Color	7	6	7	7	6	6	6	6
Wave	1	2	2	2	2	2	1	1
Swell	1	1	1	1	1	1	1	1
Air Temp. (°C)	16	16	16.5	16.0	16.5	18.7	19	19.0
Air Press.(mm)	771.3	771.3	771.2	771.5	771.5	771.5	771.5	769
Wind	N.2	N.2	N.2	N.2	N.2	N.2	N.2	N.1
Cloud	0	0	0	0	0	0	0	0
Weather	B	B	B	B	B	B	B	B

Date		November 1960								
Sta. No.		21 34°51' 128°17'	22 34°52' 128°07'	23 34°42' 128°07'	24 34°35' 128°28'	25 34°35' 127°50'	26 34°28' 128°00'	27 34°31' 128°11'	28 34°34' 128°23'	32 34°43' 128°59'
Day		2	3	3	3	3	3	3	4	4
Item	Time / Z(m)	1617	0712	0830	1140	1320	1453	1605	0725	0845
T °C	0	19.60	19.40	19.70	20.50	20.40	19.70	19.00	19.00	20.40
	10	—	18.59	19.80	20.08	19.41	18.78	17.67	18.10	19.28
	25	—	—	—	19.92	19.79	19.10	18.20	18.18	20.70
	50	—	—	—	—	—	—	—	—	20.89
	Botm.	25.20	19.07	19.71	18.45	18.50	18.68	18.17	18.20	15.21
Sounding (m)		14	21	36	57	40	42	65	54	90
Transp. (m)		2	3	5	8	8	7	4.5	4	15
Color		6	6	6	6	4	4	6	5	4
Wave		1	1	1	1	1	1	2	1	3
Swell		1	1	1	1	1	1	1	1	2
Air Temp. (°C)		19.0	14	15.0	17.7	17	17.0	17.5	15	16
Air Press. (mm)		769	768	768	768	768	768	765.5	762	762
Wind		N.1	NW.2	N.2	NW.1	N.2	N.1	N.2	NE.2	NNE.3
Cloud		0	Ci.3	Ci.2	Ci.2	Ci.5	Ci.5	Sc.7	Sc.8	Sc.8
Weather		B	BC	B	B	BC	BC	BC	C	C

Date		November 1960						
Sta. No.		33 34°36' 129°08'	34 34°43' 129°15'	35 34°50' 129°07'	36 34°56' 128°58'	3' 35°02' 128°56'	3" 35°02' 128°54'	3"' 35°03' 128°52'
Day		4	4	4	4	1	1	1
Item	Time / Z(m)	1005	1140	1305	1428	1609	1620	1630
T °C	0	22.30	22.30	20.20	20.50	19.60	19.60	18.70
	10	21.51	21.62	19.20	18.87	—	—	—
	25	21.90	21.78	20.00	18.42	—	—	—
	50	21.78	21.78	19.58	—	—	—	—
	100	15.50	15.60	—	—	—	—	—
	150	—	13.80	—	—	—	—	—
	Botm.	14.90	10.87	15.32	16.80	18.72	18.60	19.10
Sounding (m)		134	185	105	54	11	11	11
Transp. (m)		15	17	12	7	3	2	3.2
Color		3	3	3	4	7	7	8
Wave		2	3	2	2	1	1	1
Swell		2	2	2	2	1	1	1
Air Temp. (°C)		19	19	19	19.5	19.5	20	18.0
Air Press. (mm)		762	762	760.5	761.5	771.5	771.5	771.5
Wind		NNE.3	NE.3	NE.2	NE.2	N.2	N.1	N.1
Cloud		Sc.2	Cu.7	Cu.9	Cu.7	Cc.5	Cc.4	Cc.4
Weather		B	BC	C	BC	BC	BC	BC

4. 西海 海洋觀測成績

OCEANOGRAPHIC DATA, WEST COAST

A. 西海岸, 4月 (第8圖)

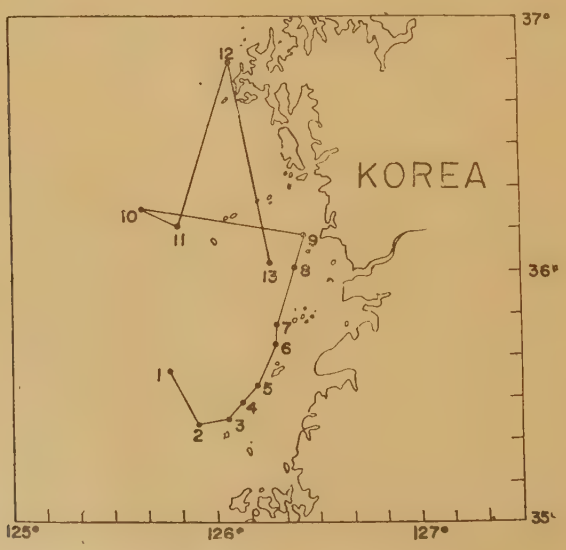
WEST COST, APRIL (Fig. 8)

Date		① April 1960						
Sta. No.		1 35°36' 25°47'	2 35°24' 125°56'	3 35°25' 126°04'	4 35°29' 126°08'	5 35°33' 126°13'	6 35°43' 126°18'	7 35°48' 126°19'
Day		3	3	3	3	4	4	4
Item	Time / Z(m)	1500	1700	1900	2000	0820	0915	1045
T °C	0	7.50	7.50	8.00	8.00	7.30	7.50	8.10
	10	6.80	6.60	6.70	6.70	7.20	7.20	7.00
	25	6.70	6.60	6.50	—	—	—	—
	Botm.	6.60	6.50	6.50	6.70	7.10	7.10	7.00
S ‰	0	32.39	32.29	32.29	32.20	32.25	32.00	32.11
	10	32.30	33.51	32.21	—	31.98	31.98	31.98
	52	32.35	32.27	32.11	—	—	—	—
	Botm.	32.34	32.12	—	32.09	32.16	31.96	32.00
Sounding (m)		54	40	40	19	18	17	18
Transp. (mm)		6	5	3	—	1.5	1.5	1.5
Color		—	—	—	—	—	—	—
Wave		2	2	1	0	0	0	0
Swell		2	2	2	2	1	1	1
Air Temp.(°C)		8.0	8.1	9.0	7.5	7.4	8.0	10.0
Air Press.(mm)		—	—	—	—	—	—	—
Wind		SE.2	SE.2	SW.1	W.1	NE.2	NE.1	N.1
Cloud		Ci.2	Ci.1	0	—	Cu.9	Cu.10	Ci.8
Weather		B	B	B	B	C	C	C

Date		April 4960					
Sta. No.		8 36°00' 126°25'	9 36°10' 126°28'	10 36°15' 125°40'	11 36°11' 125°51'	12 36°50' 126°06'	13 36°02' 126°17'
Day		5	5	8	8	9	9
Item	Time / Z(m)	0712	1630	1400	1600	0800	1110
T °C	0	7.00	7.60	8.00	8.60	6.80	7.60
	10	7.00	—	6.60	6.80	6.70	7.00
	25	—	—	6.60	6.50	6.60	—
	50	—	—	6.30	—	6.60	—
	Botm.	6.90	7.50	6.30	6.40	6.60	6.90
S ‰	0	35.59	32.77	—	32.34	33.86	32.32
	10	31.98	—	32.16	32.20	32.11	32.00
	25	—	—	32.21	—	32.12	—
	50	—	—	32.27	—	—	—
	Botm.	—	31.94	32.25	32.25	32.07	31.91
Sounding (m)		18	11	60	55	40	23
Transp. (m)		1.5	1.5	6	6	3	2
Color		—	—	—	—	—	—
Wave		3	3	0	0	0	1
Swell		3	2	1	1	1	1
Air Temp.(°C)		7.0	8.1	7.5	8.0	8.7	9.5
Air Press.(mm)		—	—	—	—	—	—
Wind		NW.4	W.3	SE.1	SE.1	E.2	SE.2
Cloud		0	0	0	0	0	Ci.2
Weather		B	B	B	B	B	B

第 8 圖 西海岸 海洋觀測點位置圖 （4月）

Fig. 8. Station Locations, West Coast (April)



B. 蝟島近海, 4~5月 (第9圖)

WEST COAST, APRIL~MAY (Fig. 9)

Date		① April 1960					
Sta. No.		1 35°46' 126°24'	2 35°42' 126°21'	3 35°30' 126°14'	4 35°25' 126°12'	5 35°28' 126°00'	6 35°32' 126°04'
Day		18	18	18	18	18	18
Item	Time / Z(m)	1130	1215	1440	1520	1625	1745
T °C	0	3.60	10.80	10.00	10.60	10.50	9.80
	10	8.50	9.80	—	—	9.20	8.50
	Botm.	8.50	9.70	9.50	9.30	9.10	8.30
S ‰	0	32.07	32.12	32.11	—	32.30	32.47
	10	32.03	31.96	—	—	31.98	—
	Botm.	—	31.98	32.02	32.03	32.00	—

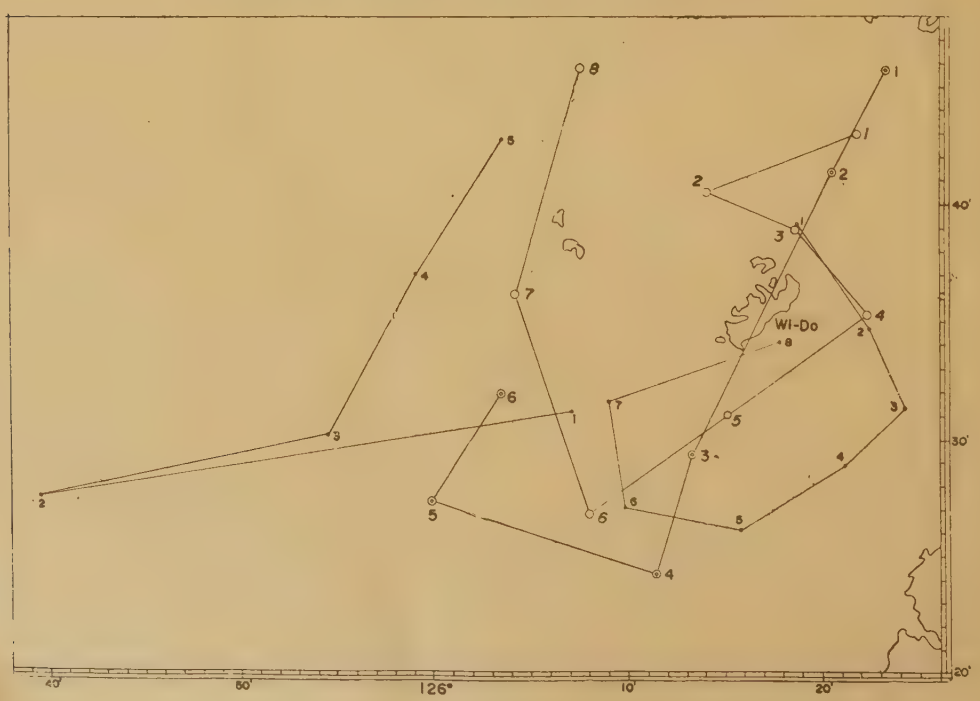
Date		② April 1960				
Sta. No.		1 35°32' 126°07'	2 35°28' 125°40'	3 35°31' 125°55'	4 35°37' 126°59'	5 35°43' 126°04'
Day		23	23	23	23	23
Item	Time / Z(m)	0630	0805	0925	1020	1120
T °C	0	8.80	8.00	7.90	8.10	8.00
	10	8.70	8.00	7.50	—	—
	25	—	—	7.40	—	—
	Botm.	8.60	7.80	7.10	—	—
S ‰	0	32.02	32.03	32.23	32.18	32.20
	10	32.02	32.05	32.21	—	—
	25	—	—	32.16	—	—
	50	—	—	32.20	—	—
	Botm.	31.96	32.03	—	—	—
Sounding (m)		25	25	50	—	—
Transp. (m)		1.5	1.6	3	—	—
Air Temp. (°C)		9.7	11.8	10.9	10.9	11.0

Date	③ April 1960							
Sta. No.	1 34°43' 126°22'	2 35°41' 126°14'	3 35°39' 126°19'	4 35°36' 126°23'	5 35°26' 126°30'	6 35°27' 126°08'	7 35°36' 126°04'	8 35°46' 126°08'
Day	28	28	28	29	29	29	29	29
Item \ Time / Z(m)	1340	1605	1710	0920	1100	1230	1310	1645
T °C 0	11.50	11.90	11.20	12.70	12.50	13.50	12.00	12.30
Air Temp. (°C)	14.3	14.3	14.5	13.0	15.8	15.4	13.0	11.50

Date	④ May 1960							
Sta. No.	1 35°39' 126°19'	2 35°36' 126°23'	3 35°32' 126°27'	4 35°29' 126°21'	5 35°26' 126°16'	6 35°27' 126°10'	7 35°32' 126°09'	8 35°37' 126°18'
Day	7	7	7	8	8	8	8	8
Item \ Time / Z(m)	1540	1630	1745	1110	0205	1300	1410	1500
T °C 0	13.50	14.10	13.90	14.50	14.60	14.30	14.40	16.70
Air Temp.(°C)	16.2	12.50	16.0	16.50	16.0	15.9	16.0	16.3

第 9 圖　蜊島 近海　海洋觀測點位置圖（4～5月）

Fig. 9. Station Locations West Coast (April～May)



C. 延 坪 島 近 海, 5 月 (第 10 圖)

WEST COAST, MAY (Fig. 10)

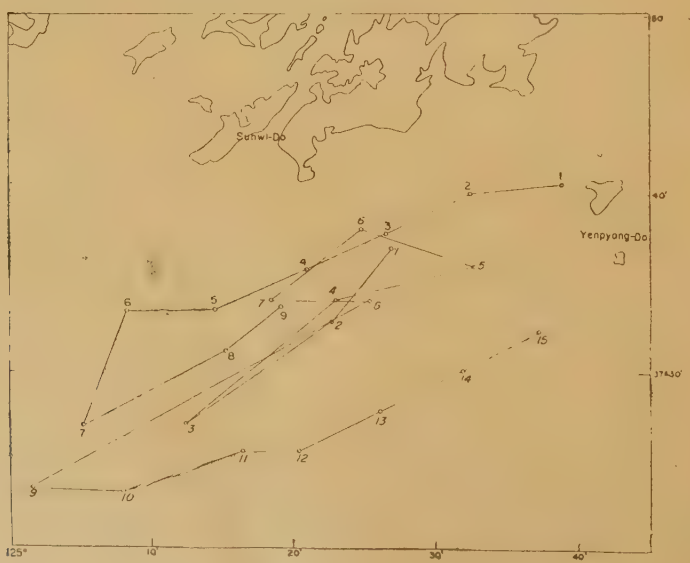
Date		① May 1960						
Sta. No.		1 37°37' 125°27'	2 37°33' 125°23'	3 37°27' 125°13'	4 37°34' 125°23'	5 37°'36' 125°'33'	6 37°38' 125°25'	7 37°34' 125°18'
Day		8	8	8	8	8	11	11
Item	Time / Z(m)	0800	1005	1110	1210	1310	1030	1205
T °C	0	10.50	10.50	10.00	10.70	10.50	13.00	12.00
	10	—	—	—	—	—	12.00	—
	Botm.	10.60	10.40	10.00	11.00	12.00	11.00	11.00
Sounding (m)		24	27	25	20	17	47	28
Transp.(m)		6	6	4	4	1.5	2	2
Color		7	7	7	7	5	7	7

Date		May 1960							
Sta. No.		8 37°34' 125°26'	9 37°23' 125°02'	10 37°23' 125°08'	11 37°26' 125°17'	12 37°26' 125°21'	13 37°28' 125°26'	14 37°30' 125°32'	15 37°32' 125°38'
Day		11	15	15	15	15	15	15	15
Item	Time / Z(m)	1315	1350	1435	1530	1600	1640	1715	1745
T °C	0	11.40	10.00	11.00	11.00	11.00	13.00	13.00	15.00
	10	—	10.00	10.00	—	—	—	—	—
	Botm.	11.00	10.00	10.00	11.00	11.00	12.00	12.00	14.00
Sounding (m)		25	42	46	13	10	13	11	13
Transp.(m)		2	2	2	—	1	1	1	1
Color		—	8	8	—	7	7	7	7

Date		② May 1960								
Sta. No.		1 37°41' 125°39'	2 37°40' 125°33'	3 37°38' 125°27'	4 37°36' 125°21'	5 37°34' 125°15'	6 37°34' 125°08'	7 37°27' 125°05'	8 37°31' 125°16'	9 37°34' 125°19'
Day		23	23	23	23	23	23	23	26	26
Item	Time / Z(m)	1501	1240	1335	1445	1540	1630	2120	1000	1240
T °C	0	15.00	13.50	12.70	12.20	12.70	12.70	13.30	13.60	14.50
	10	14.50	13.50	12.50	11.80	11.50	11.50	13.20	13.50	13.50
	25	—	—	12.50	11.80	—	—	12.00	—	—
	Botm.	14.30	13.50	12.50	12.50	11.80	11.50	11.70	13.40	13.00
S ‰	0	31.18	31.38	31.65	31.78	31.85	31.92	31.51	31.42	31.38
	10	31.22	31.29	31.55	31.82	31.91	31.83	31.46	31.38	31.55
	25	—	—	31.73	31.85	—	—	31.64	—	—
	Botm.	31.24	31.29	31.64	31.83	31.87	31.83	31.73	31.38	31.60
Sounding (m)		25	25	42	30	30	31	32	17	20
Transp.(m)		1.5	1.2	1.8	3	5	3.5	—	2.0	—
Color		8	8	8	6	6	6	—	8	6
Wave		2	2	2	2	2	2	2	0	0
Swell		1	1	2	2	1	1	1	0	0
Air Temp.(°C)		17.0	17.0	18.0	18.0	17.0	17.0	15.0	—	16.5
Air Press.(mm)		770	769.5	769	768.5	768.5	768.5	768	761	760.5
Wind		SW.3	SW.3	SW.3	SW.3	SW.3	SW.3	SW.3	0	SE.1
Cloud		Cc.4	Cc.4	Cc.4	Cc.4	Cc.6	Ac.6	—	Sc.9	0
Weather		BC	BC	BC	BC	BC	BC	—	C	B

第10圖 延坪島近海 海洋觀測點位置圖 （5月）

Fig. 10. Station Locations, West Coast (May)



D. 延坪島近海, 5月 (第11圖)

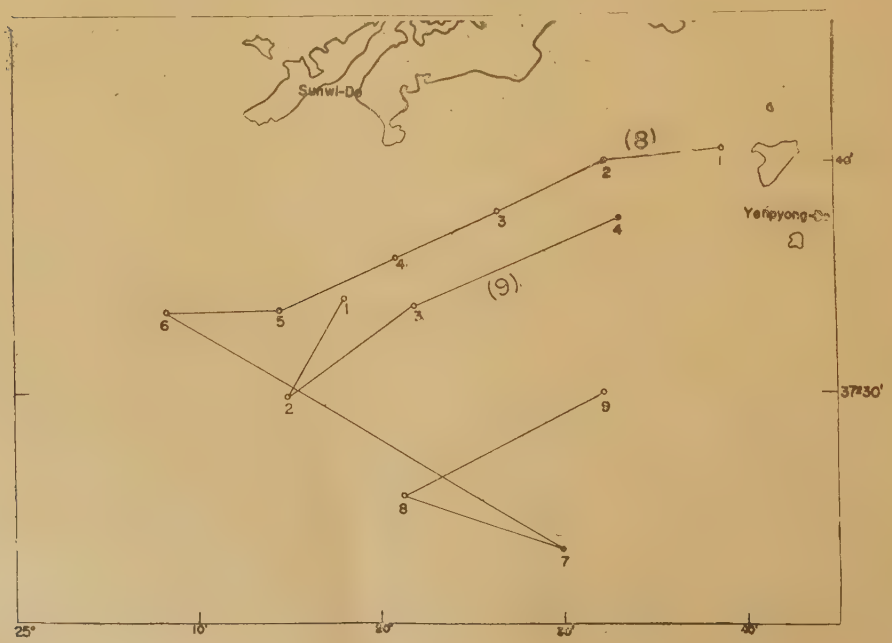
WEST COAST, MAY (Fig. 11)

Date		① May 1960						
Sta. No.		1 37°41' 125°39'	2 37°40' 125°33'	3 7°38' 125°27'	4 37°36' 125°21'	5 37°34' 125°15'	6 37°34' 125°08'	7 37°23' 125°30'
Day		27	27	27	27	27	27	27
Item	Time / Z(m)	1120	1205	1240	1407	1505	1620	1830
T °C	0	16.00	16.20	14.70	13.00	13.40	12.50	14.10
	10	15.50	14.70	14.10	12.90	12.50	12.40	12.40
	25	—	—	14.10	—	—	12.30	11.50
	Botm.	15.50	14.80	14.10	13.00	12.50	12.40	11.50
S ‰	0	31.02	31.20	31.20	31.74	31.78	31.80	31.67
	10	31.02	31.37	31.38	31.55	—	31.82	31.91
	25	—	—	31.33	—	—	31.73	31.78
	Botm.	31.11	31.31	31.38	32.02	31.62	31.74	31.73
Sounding (m)		29	27	38	26	23	30	36
Transp. (m)		—	2.8	1.5	2.8	2	2.5	5
Color		—	7	7	6	7	7	5
Wave		0	0	0	0	0	0	0
Swell		0	0	0	0	0	0	0
Air Temp. (°C)		18.5	18.5	18.0	17.0	16.5	16.5	15.0
Air Press. (mm)		759	759	758	758	757	757	756.5
Wind		SE.1	SE.1	S.1	S.1	SW.1	SW.1	NW.2
Cloud		St.5	St.6	St.7	St.10	St.10	St.10	St.10
Weather		BC	BC	BC	C	C	C	C

Date		May 1960		② May 1960			
Sta. No.		8 37°26' 125°21'	9 37°30' 125°32'	1 37°34' 125°18'	2 37°30' 125°15'	3 37°34' 125°22'	4 37°38' 125°33'
Day		27	27	29	29	29	29
Item	Time / Z(m)	2003	2110	1010	1220	1330	1425
T °C	0	13.00	14.20	13.80	14.20	15.80	16.20
	10	12.70	14.50	13.60	13.70	15.40	15.50
	25	—	—	—	—	—	—
	Botm.	12.70	13.70	13.40	13.70	15.00	15.50
S ‰	0	31.73	31.17	32.85	31.47	—	31.24
	10	31.49	31.22	31.69	31.11	31.42	31.08
	25	—	—	—	—	—	—
	Botm.	31.60	30.97	31.53	—	31.18	31.18
Sounding (m)		17	15	27	15	16	17
Transp. (m)		—	—	1.5	1.2	1.0	1.0
Color		—	—	6	—	9	—
Wave		0	0	3	3	3	3
Swell		1	0	1	1	1	1
Air Temp. (°C)		15.0	—	22.0	18.5	20.8	23.5
Air Press. (mm)		765.5	—	757.5	~~758~~ ~~785~~	757.9	757.9
Wind		NW.2	—	NNw.3	NNW.3	NNW.3	NNW.3
Cloud		0	—	Cu.1	Cu.1	Cu.1	Cu.1
Weaher		B	—	B	B	B	B

第11圖　延坪島　近海　海洋觀測點位置圖（5月）

Fig. 11. Station Locations, West Coast (May)



E. 黑山島 近海, 8月 (第 12 圖)

WEST COAST, AUGUST (Fig. 12)

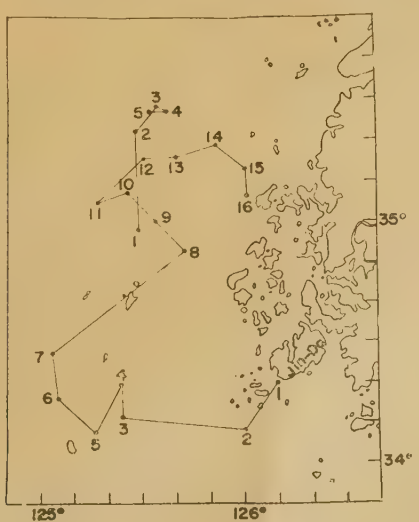
Date		① August 1960							
Sta. No.		1 34°21' 126°09'	2 34°08' 125°59'	3 34°11' 125°22'	4 34°19' 125°27'	5 34°07' 125°15'	5 34°16' 126°04'	7 34°26' 125°01'	8 34°53' 125°42'
Day		11	11	11	11	12	12	12	13
Item	Time / Z(m)	1430	1550	1700	1825	1830	1025	1150	1045
T °C	5	25.80	22.40	19.40	20.60	25.00	24.30	25.80	22.90
	10	23.50	20.40	17.90	18.30	23.00	21.70	23.50	—
	25	19.60	16.60	15.70	17.40	20.00	20.40	21.00	20.20
	50							18.30	
	100								
	150								
	Botm.	18.50	15.10	14.90	14.50	14.40	14.30	16.00	19.40
S ‰	0	32.12	32.54	32.99	33.35	32.29	32.41	31.98	32.77
	10	32.38	32.86	32.95	32.97	34.54	32.50	32.32	—
	25	33.04	33.39	33.21	33.12	33.77	32.72	32.59	32.70
	50								
	100								
	150								
	Botm.	33.21	34.09	33.44	32.17	33.35	32.92	32.77	32.95
Sounding (m)		45	54	65	56	87	92	85	55
Transp. (m)		13	4.5	6	2	14	8	12	3
Wave		1	2	2	3	1	2	1	1
Swell		1	1	1	1	1	1	1	2
Air Temp. (°C)		28.0	25.0	24.6	25.6	27.8	27.1	29.7	25.5
Air Press. (mm)		752	752	752	752	755	755	755	756
Wind		SE.2	NW.2	NW.2	W.3	NE.2	NE.2	NE.2	N.2
Cloud		Ci.2	Ci.2	Ci.3	Cs.3	Ci.2	Ci.2	Cc.3	Cc.2
Weather		B	B	BC	BC	B	B	BC	B

Date		August 1960				
Sta. No.		9 35°00' 125°34'	10 35°07' 125°25'	11 35°04' 125°16'	12 35°16' 125°29'	13 35°17' 125°40'
Day		13	15	15	15	15
Item	Time / Z(m)	1205	1305	1415	1530	1655
T °C	0	26.30	26.30	27.00	27.30	27.00
	10	—	—	—	—	—
	25	20.10	18.70	20.30	18.00	22.30
	50	—	—	—	—	—
	100	—	—	—	—	—
	150	—	—	—	—	—
	Botm.	17.30	13.80	13.70	17.50	21.30
S ‰	0	32.11	32.47	32.50	32.14	32.77
	10	—	—	—	—	—
	25	32.68	33.17	32.54	32.68	32.81
	50	—	—	—	—	—
	100	—	—	—	—	—
	150	—	—	—	—	—
	Botm.	32.79	32.99	32.94	32.70	32.72
Sounding (m)		62	58	65	54	32
Transp. (m)		9	9	13	11	3
Color		1	1	1	1	1
Wave		1	1	1	1	1
Swell		30.9	27.8	27.5	27.6	26.5
Air Temp.(°C)		756	757	756	756	755
Air Press.(mm)						
Wind		N.2	NE.2	NE.2	SE.2	NE.2
Cloud		Cc.2	Cc.5	Ci,4	Cs,3	Cc.5
Weather		B	BC	BC	BC	BC

Date	August 1960			② August 1960				
Sta. No.	14 35°19' 125°52'	15 35°13' 126°09'	16 35°06' 126°00'	1 34°58' 125°29'	2 35°22' 125°28'	3 35°28' 125°34'	4 35°27' 125°37'	5 35°27' 125°31'
Day	15	16	16	17	17	18	18	18
Item \ Time / Z(m)	1820	1335	1440	2110	2400	0200	0350	0440
T °C 0	26.70	26.90	27.50	28.00	27.60	28.00	27.50	28.00
10				26.50	26.20	27.10	27.00	27.00
25	21.60	—	—	20.50	19.70	20.20	20.00	20.00
50							14.80	
Botm.	21.20	26.30	26.00	15.20	15.20	14.50	14.20	15.20
S ‰ 0	32.90	32.85	33.04	31.98	32.50	32.20	32.29	32.25
10				32.02	32.99	32.25	32.21	32.38
25	32.83			32.97	32.85	32.83	33.33	32.81
50							33.08	
Botm.	32.81	32.90	32.99	32.95	32.79	32.99	32.81	33.64
Sounding (m)	21	19	22	64	50	75	81	69
Transp. (m)	4	4	2	3	4	5	6	4
Wave	1	1	1	1	1	1	1	1
Swell	1	1	1	1	1	1	1	1
Air Temp. (°C)	26.4	27.5	30.8	27.7	26.4	27.4	26.9	26.5
Air Press. (mm)	755	756	756	755	755	755	755	755
Wind	SE.2	SE.2	SE.2	N.2	E.2	NE.2	NE.1	NE.2
Cloud	Ns.8	Ci.2	Ci.2	Sc.3	Sc.2	Ns.2	Ns.3	Ns.2
Weather	C	B	B	BC	B	B	BC	B

第12圖　黑山島近海　海洋觀測點位置圖　（8月）

Fig. 12. Station Locations, West Coast (August)



F. 西 海 岸, 8 月 (第 13 圖)

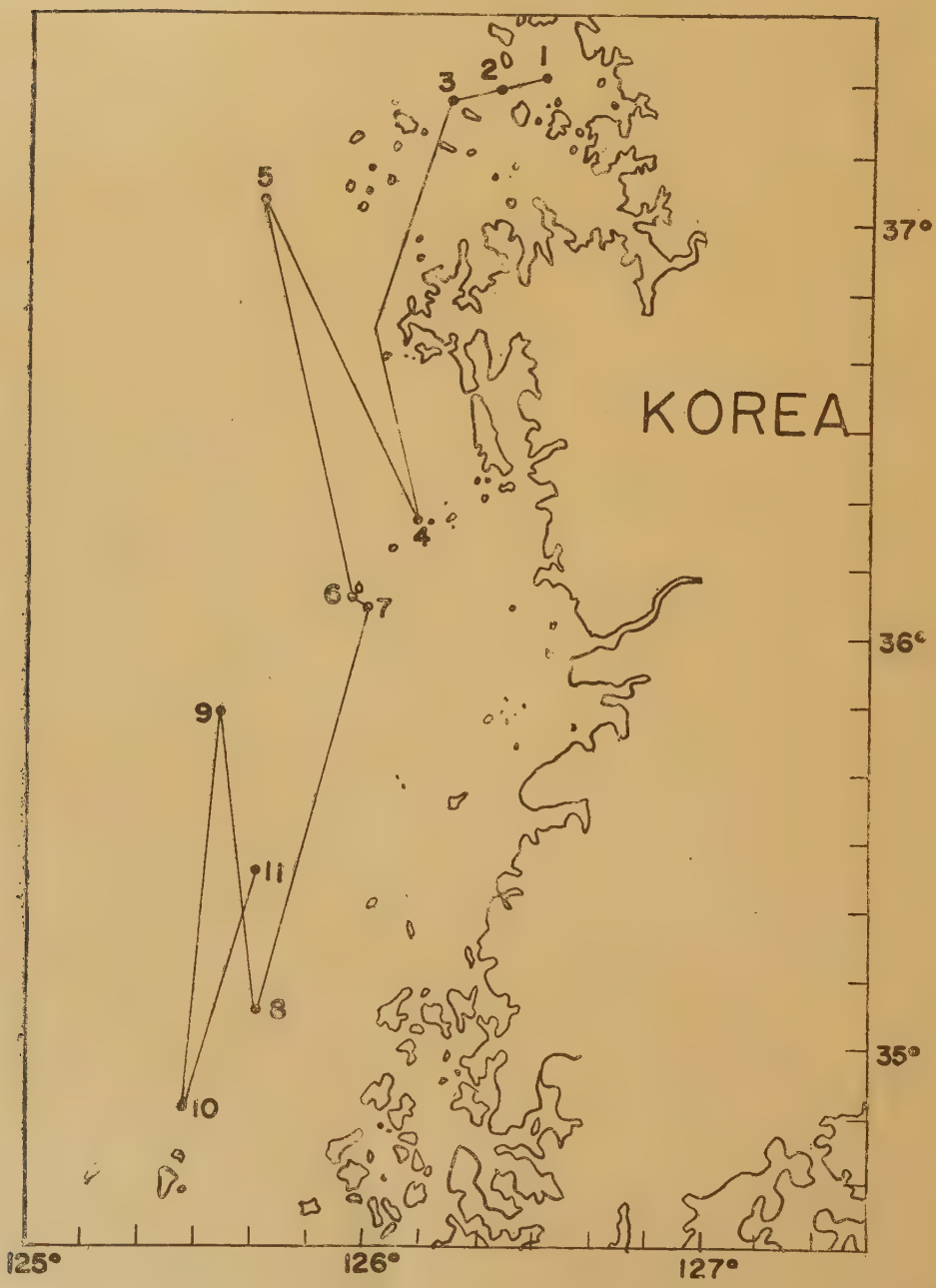
WEST COAST, AUGUST (Fig. 13)

Date		① August 1960					
Sta. No.		1 37°22' 126°32'	2 37°20' 126°23'	3 37°18' 126°15'	4 36°17' 126°09'	5 37°03' 125°42'	6 36°06' 125°59'
Day		6	6	7	7	7	8
Item	Time / Z(m)	2230	2345	0055	0150	1220	1155
T °C	0	26.50 26.28	24.50 —	23.50 24.37	23.00 —	23.50 22.58	25.50 21.79
	10	—	—	—	—	—	18.50
	25	—	—	—	—	—	—
	50						
	Botm.	25.68	23.97	23.43	22.58	21.36	16.07
S ‰	0	30.43	30.86	31.00	31.13	31.55	32.29
	10	30.43	—	30.95	—	31.49	—
	25	—	—	—	—	—	31.55
	50	—	—	—	—	—	—
	Botm.	30.57	30.90	31.02	31.15	31.67	32.57
Sounding (m)		35	16	23	12	40	62
Transp. (m)		—	—	—	—	5	11.5
Color		—	—	—	—	—	—
Wave		0	0	0	0	1	0
Swell		0	0	1	1	1	0
Air Temp. (°C)		—	—	—	—	—	—
Air Press. (mm)		—	—	—	—	—	—
Wind		0	0	0	0	NE. 1	0
Cloud		Ci. 3	Cs. 8	Cc. 9	Ci. 3	0	0
Weather		BC	C	C	BC	B	B

Date		August 1960				
Sta. No.		7 36°05' 126°01'	8 35°05' 125°42'	9 35°49' 125°35'	10 34°50' 125°28'	11 35°25' 125°41'
Day		8	13	13	17	18
Item	Time / Z(m)	1245	0830	1600	0445	0400
T °C	0	24.30	25.70	25.00	27.50	27.80
	10	22.10	20.74	20.63	24.38	27.32
	25	20.23	—	19.73	20.00	20.78
	50	—	—	—	15.38	14.99
	Botm.	17.23	18.90	18.18	14.23	14.70
S ‰	0	32.24	32.39	32.70	32.45	32.45
	10	32.38	32.56	32.65	32.68	—
	25	32.27	—	32.63	32.90	32.85
	50	—	—	—	32.99	33.60
	Botm.	—	32.77	32.86	32.27	33.06
Sounding (m)		49	44	56	70	77
Transp. (m)		11	10	10	—	—
Color		—	—	—	—	—
Wave		0	1	1	1	1
Swell		0	1	1	1	1
Air Temp. (°C)		—	—	—	—	—
Air Press. (mm)		—	—	—	—	—
Wind		0	N.1	N.1	E.2	E.1
Cloud		0	Ci.7	Ci.5	0	Ci.6
Weather		B	BC	BC	B	BC

第13圖　西海岸　海洋觀測點位置圖（8月）

Fig. 13. Station Locations, West Coast (August)



G. 西海岸, 9月 (第 14 圖)

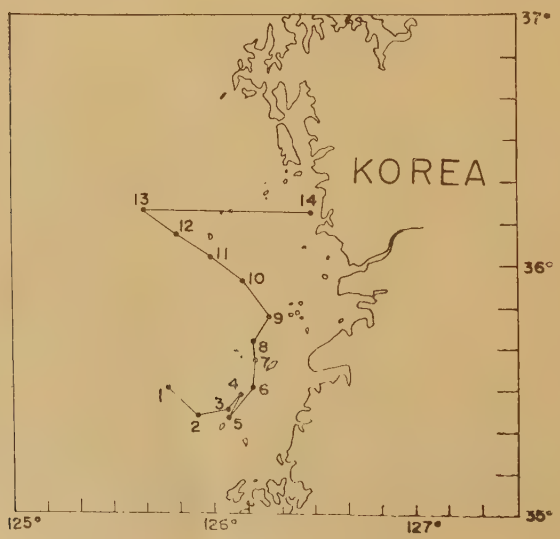
WEST COAST, SEPTEMBER (Fig. 14)

Date		① September 1960						
Sta. No.		1 35°30' 125°47'	2 35°24' 125°56'	3 35°25' 126°04'	4 35°29' 126°08'	5 35°24' 126°03'	6 35°31' 126°11'	7 35°37' 126°12'
Day		6	6	6	6	7	7	7
Item	Time / Z(m)	1720	1920	2120	2320	1040	1235	1400
T °C	0	24.60	24.50	22.90	24.00	24.60	24.40	25.00
	10	24.20	24.50	22.60	24.00	24.60	24.30	24.20
	25	23.90	20.60	20.30	—	—	—	—
	50	20.00	20.00	—	—	—	—	—
	Botm.	16.10	17.20	19.20	23.50	24.60	24.20	23.60
S ‰	0	32.11	32.11	32.52	32.47	32.50	32.21	32.21
	10	32.38	32.12	32.47	32.48	32.52	32.25	32.43
	25	35.20	34.31	32.50	—	—	—	—
	50	32.52	32.52	—	—	—	—	—
	Botm.	32.50	32.50	32.50	32.50	32.81	32.48	32.41
Sounding (m)		58	60	39	25	17	17	21
Transp. (m)		15.0	13.0	—	—	1.0	1.5	2.0
Color		—	—	—	—	—	—	—
Wave		2	2	3	2	2	1	1
Swell		1	1	2	2	1	1	1
Air Temp.(°C)		23.7	23.8	23.5	22.9	22.7	24.2	24.1
Air Press. (mm)		—	—	—	—	—	—	—
Wind		SE.4	SE.4	E.3	E.2	NE.2	NE.2	NE.2
Cloud		—	—	—	—	—	—	—
Weather		BC	BC	BC	B	B	B	B

Date		September 1960						
Sta. No.		8 35°42' 126°11'	9 35°48' 126°16'	10 35°57' 126°09'	11 36°02' 126°00'	12 36°08' 125°49'	13 36°14' 125°40'	14 36°12' 126°29'
Day		7	7	7	7	9	9	10
Item	Time / Z(m)	1450	1515	1815	2040	0530	0730	0940
T °C	0	24.60	24.20	23.90	24.30	23.20	23.50	23.80
	10	23.90	23.80	23.50	24.00	23.30	23.10	23.70
	25	—	—	23.50	22.80	21.40	20.20	—
	50	—	—	—	—	—	—	—
	Botm.	23.50	23.70	23.30	22.20	21.20	19.10	23.50
S ‰	0	32.34	32.20	32.38	32.38	32.99	32.36	32.14
	10	32.41	32.14	—	32.29	32.41	32.41	31.80
	25	—	—	32.41	32.47	32.43	32.43	—
	50	—	—	—	—	—	—	—
	Botm.	32.43	32.36	32.41	32.54	32.50	32.47	31.74
Sounding (m)		26	27	37	43	55	45	18
Transp. (m)		3.0	2.5	—	—	—	10.0	1.5
Color		—	—	—	—	—	—	—
Wave		1	1	2	2	1	2	1
Swell		1	1	1	1	2	2	0
Air Temp. (°C)		23.7	23.5	24.0	24.2	23.5	23.4	21.5
Air Press. (mm)		—	—	—	—	—	—	—
Wind		NW.2	NW.2	NW.3	NE.2	NW.3	NW.3	SE.2
Cloud		—	—	Cu.9	Ci.2	0	0	Ci.6
Weather		B	B	C	B	B	B	BC

第14圖　西海岸 海洋觀測点位置圖（9月）

Fig. 14. Station Locations, West Coast (September)



H. 西 海 岸, 9 月 (第 15 圖)

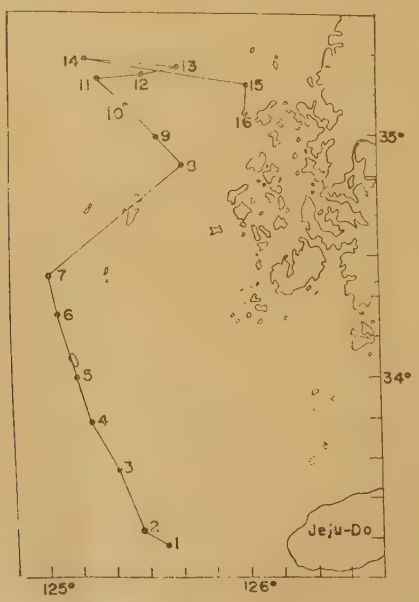
WEST COAST, SEPTEMBER (Fig. 15)

Date		① September 1960							
Sta. No.		1 33°18' 125°35'	2 33°22' 125°28'	3 33°37' 125°22'	4 33°50' 125°14'	5 34°01' 125°09'	6 34°16' 125°04'	7 34°26' 125°01'	8 34°53' 125°42'
Day		4	4	4	4	4	7	7	9
Item	Time / Z(m)	0810	1000	1215	1410	1515	1615	1610	0950
T °C	0	26.40	25.80	25.90	25.10	25.50	23.70	24.80	23.60
	10	25.60	25.30	24.90	24.90	25.10	23.30	24.50	22.10
	25	24.10	23.50	22.70	24.30	22.80	22.90	23.80	21.30
	50	25.50	13.90	18.50	17.20	18.50	20.00	18.60	—
	Botm.	14.80	14.70	17.00	16.50	14.50	15.60	19.30	20.40
S ‰	0	30.97	30.70	31.09	31.64	31.53	31.69	31.40	31.89
	10	31.02	30.79	31.42	31.71	31.82	31.71	31.40	32.07
	25	31.89	31.31	31.69	31.82	31.92	31.78	31.56	32.12
	50	32.50	33.69	33.31	32.88	32.23	32.54	32.48	—
	Botm.	34.24	33.46	33.17	33.13	33.21	32.97	33.01	32.27
Sounding (m)		106	96	103	111	96	96	85	60
Transp. (m)		14	13	13	13	12	9	13	7
Color		—	—	—	—	—	—	—	—
Wave		2	2	2	3	4	3	3	2
Swell		1	1	1	1	2	1	1	1
Air Temp. (°C)		25.7	24.0	25.5	26.0	22.0	25.5	25.2	24.0
Air Press. (mm)		757	756	756	756	755	754	754	758
Wind		SW.3	E.3	E.2	NE.3	NE.6	NW.4	N.3	NW.3
Cloud		Ns.10	Ns.8	Ns.8	Ns.10	Ns.10	Cc.9	Cc.8	Ci.4
Weather		C	C	C	R	R	C	C	BC

Date		September 1960							
Sta. No.		9 35°00' 125°34'	10 35°07' 125°25'	11 35°14' 125°16'	12 35°16' 125°29'	13 35°17' 125°40'	14 35°19' 125°12'	15 35°13' 126°00'	16 35°06' 126°00'
Day		9	9	9	9	9	9	9	9
Item	Time / Z(m)	1125	1240	1420	1515	1035	1740	1835	1935
T °C	0	24.50	23.50	23.70	24.20	25.30	23.50	24.90	23.60
	10	23.70	22.30	21.70	22.80	23.80	22.60	22.70	23.70
	25	19.60	18.30	20.40	19.40	19.90	21.30	—	—
	50	—	15.70	17.50	16.40	—	—	—	—
	Botm.	18.70	15.60	19.50	15.30	17.10	21.70	22.00	23.80
S ‰	0	31.74	31.98	32.27	32.02	31.92	32.27	32.41	32.23
	10	31.65	32.07	32.07	32.07	32.36	32.18	32.18	32.18
	25	32.41	32.41	32.27	32.14	32.30	—	—	—
	50	—	32.25	32.45	32.47	—	—	—	—
	Botm.	32.41	32.72	32.88	32.76	32.63	32.25	32.27	32.27
Sounding (m)		60	74	80	80	56	49	28	21
Transp. (m)		7	12	7	9	9	2	2	0.5
Color		—	—	—	—	—	—	—	—
Wave		3	3	3	3	2	1	2	2
Swell		1	2	2	2	2	2	2	2
Air Temp. (°C)		24.0	25.6	26.8	28.0	23.4	23.5	22.4	21.0
Air Press. (mm)		759	759	758	758	758	758	758	758
Wind		NW.3	N.2	NW.2	N.2	N.2	N.2	N.2	NW.2
Cloud		Ci.3	Ci.2	Ci.2	Ci.2	Ci.2	Ci.3	Ci.4	Ci.3
Weather		BC	B	B	B	B	BC	BC	BC

第15圖　西海岸　海洋觀測點位置圖（9月）

Fig. 15. Station Locations, West Coast (September)



鎭海灣 浮游生物調査成績 ㊥

PLANKTON DATA, CHINHAE-MAN (VERTICAL HAUL) 1960

Month	January								
Station	1	2	3	3′	3″	3‴	4	5	6
Date	30	30	30	30	30	30	30	30	30
Time	10:34	11:12	11:47	12:10	12:24	12:40	13:25	14:20	14:50
Volume (cc)	0.1	1.0	0.2	1.5	0.8	1.5	2.0	1.5	3.0
Rate of dilute	—	150	150	100	100	100	150	100	100
Collected depth	20	35	25	10	10	—	35	22	20
Total Organisms	3	8	9	12	12	5	12	16	13
ZOOPLANKTON									
Brachyura larva		+			+				+
Copepoda sp	2	3	4	4	1		6	9	4
Calanus finmarchicus								1	
Cal. sp	1		2	2	1	2			
Corycaeus sp	+	1						1	
Corycaeus anglicus			2	1					1
Euphausia larva		+		1					
Limacina helicina		+							+
Macrura larva		+							
Noctiluca scintillans		2	+	2	7	3	2		7
Oikopleura sp		1		1	1	+	1	1	
Ostracoda sp			+						
Oithona sp	+								
Ophiopluteus sp	+	+							
Ophiopluteus larva			+					1	
Planktomya hensen					1			+	
Pararalans sp		1							
Paracalanus larva			+		+	+			
Sagitta sp		+	+	1	1	+	3	3	1
Shrimp larva			1						+
Tintinnopsis sp									+

Month	January									
Station	7	8	9	10	11	12	13	14	15	16
Date	30	30	30	31	31	31	31	31	31	31
Time	15:30	04:50	—	04:30	05:15	05:40	06:16	06:40	07:15	07:42
Volume (cc)	7.5	8.0	1.5	3.0	7.0	6.0	6.0	8.0	3.5	10
Rate of dilute	100	100	100	100	100	—	—	100	—	100
Collected depth	10	50	50	10	15	20	50	15	10	20
Total Organisms	12	11	7	8	15	8	3	9	14	18
ZOOPLANKTON										
Brachyura larva				+						
Alima larva										
Amphipoda sp										
Copepoda larva										
Copepoda sp	2	1	2	2	2	1		1	2	3
Peratium sp					1				1	1
Calanus sp	1									
Corycaeus sp								+		
Cory. anglicus										
Evadne tergestina										1
Limacina helicina					+					
Macrura larva										
Noctiluca scintillans	6	6	3	2	11	4	2	7	7	12
Oikopleura sp				1	+		+		2	
Ostracoda sp	1									
Oithona sp										
Ophiopluteus sp										
Plánktomya hensen						1			+	+
Peridinium sp										
Paracalanus larva		1								+
Sagitta sp	1	3	2	3	1	2	1	1	1	
Shrimp larva	1									
Setella gracilis										

January							
17	18	19	20	21	22	23	24
31	31	31	31	31	31	31	31
08:15	09:05	09:45	10:40	12:10	13:27	14:32	16:12
3.0	1.0	0.8	0.8	4.0	0.5	2.0	0.5
100	100	100	150	200	100	150	150
10	10	30	50	10	10	20	40
27	25	17	8	5	15	7	8
	+						
	+						
+	5	5	3	2	8	2	1
1					+		
							1
				1			3
+							
	+	1		+			
25	19	7	2	2	2	3	1
		+	+			2	2
	÷						
			1				
		1	+	+			
				+			
					1		
		1	1		1		
1	1	2	+	+	2	+	
					1		

Month	February								
Station	1	2	3	3'	3''	3'''	4	5	6
Date	24	24	24	24	24	24	24	24	24
Time	06:45	07:35	08:05	8:25	08:45	09:05	09:55	10:35	11:05
Volume(cc)	20	10	10. 0	20	11	18	18	18	10
Rate of dilute	100	100	100	100	100	100	100	100	—
Collected depth	10–100	25–150	20–110	12–80	7–65	10–60	30–120	30–13	15–80
Total Organisms	2	5	7	2	5	4	6	3	4
ZOOPLANKTON									
Brachyura larva									
Copepoda sp	2	4	1	1	2	2	1	2	1
Copepoda egg				1			+		
Ceratium sp			1						1
Calanus sp			2				2		
Corycaeus sp									
Cory, anglicus					2			1	
Gymnodinium lunula		+							
Macrura larva		1							1
Noctiluca scintillans	+	+	2	1		1	1		+
Oikopleura sp							+		1
Ostracoda sp	+	+					+		
Ophiopluteus sp									
Parathemisto sp									
Planktomya hensen						1			
Pelagic egg			+						
Paracalanus larva			1						
Sagitta sp							1		+
Shrimp larva							1		

February												
7	9	10	11	12	13	14	15	16	17	18	19	20
24	24	24	24	24	24	24	24	24	24	24	24	25
11:45	13:07	13:45	14:22	15:00	15:15	15:35	16:10	16:35	17:00	17:45	18:30	05:37
20	6.0	1.5	3.0	3.0	4.5	5.0	4.0	2.0	1.0	2.0	1.0	4.5
100	—	—	100	100	—	100	—	—	100	—	—	100
20–95	8–50	10–70	20–125	15–100	10–70	15–80	12–90	15–95	12–95	5–40	30190	50–320
3	28	28	22	14	40	23	31	36	18	8	21	11

Month	February								
Station	21	22	23	27	28	29	30	31	36
Date	25	25	25	25	25	25	25	25	25
Time	07:10	08:10	09:25	10:45	11:50	13:10	14:25	15:35	16:50
Volume(cc)	0.5	3.0	2.0	2.0	6.0	1.0	9.0	2.0	12.0
Rate of dilute	100	—	—	—	—	—	—	—	—
Collected depth	10–95	15–70	20–100	45–200	20–75	50–325	50–320	50–330	50–335
Total Organisms	13	14	7	4	7	6	6	16	1
ZOOPLANKTON									
Balanus larva	+								
Bracyura larva	+							1	
Copepoda larva									
Copepoda sp	1	9	3		3	2	4	4	1
Ceratium sp								+	
Calanus sp									
Corycaeus sp									
Corycaeus anglicus									
Euphausia sp		1							
Euphausia larva		1			1	+	1	2	
Evadne tergestina									
Lucifer raynaudii							1		
Limacina helicina									
Muggiaea sp								1	
Noctiluca scintillans	11	1	3	2	2	2	+	2	
Oikopleura sp		+	1	1	1	1	+	1	
Ostracoda sp					+	1	+		
Oithona sp									
Ophiopluteus sp									
Parathemisto sp		1							
Polychaeta larva				1			+		
Planktomya hensen		+							
Pelagic egg							+	+	
Paracalanus larva								5	
Shrimp larva									
Sagitta sp	1	2				+			
Salpa sp			+		+		+		

February												
1	2	3	3'	3"	3‴	4	5	6	7	8	9	10
16	19	19	19	19	19	16	16	16	16	16	16	16
9:30	16:20	14:35	15:55	13:35	15:20	12:10	12:15	13:35	14:05	14:35	15:15	15:50
5.0	4.0	2.0	0.5	1.0	2.0	6.0	7.0	3.5	5.0	2.5	3.0	3.5
50	50	50	70	50	58	50	100	50	100	100	50	50
20–150	20–157	20–161	10–359	10–173	10–100	30–290	20–217	15–490	20–209	25–280	7–58	10–75
17	27	34	44	28	28	30	14	29	49	29	43	47

Month	March									
Station	11	12	13	14	15	16	17	18	19	20
Date	16	16	16	16	16	16	17	17	17	17
Time	16:39	17:05	17:40	18:10	18:12	19:31	16:30	07:02	08:10	09:10
Volume(cc)	3.0	3.5	2.0	5.0	7.0	3.0	1.0	1.5	0.2	4.0
Rate of dilute	50	50	50	50	50	50	50	50	50	100
Collected depth	15–120	15–153	10–153	15–175	15–110	15–320	10–85	10–77	20–139	52–283
Total Organisms	40	55	29	33	41	27	21	40	32	27
ZOOPLANKTON										
Acanthometron sp										
Amphipoda sp		2								
Amphipoda larva	+									
Aulacantha sp										
Copepoda sp	6	7	5	4	3	3	4	15	6	4
Copepoda egg										
Ceratium sp	+							+		1
Calanus helgolandicus					2	1		8		
Cal. sp	4	4	2				4		3	2
Corycaeus sp								3		
Cory. anglicus		2	2		2		2		3	
Codonellopsis sp										
Evadne tergestina									+	7
Euphausia larva										
Hydromedusae sp										
Lucifer raynaudii										
Limacina helicina	1				1	+		5	1	
Muggiaea sp						1				1
Macrura larva										
Penilia geniculata						+				
Noctiluca scintillans	27	40	19	24	30	17	5	4	18	7
Oikopleura sp				1			1	+		1
Oikopleura fusiformis								+		
Ostracoda sp										1
Oncaea sp										
Oithona sp										
Parathemisto sp	1									
Polychaeta sp								+		
Polychaeta larva										
Planktomya hensen				+		+				+
Pelagic egg	+		+	1						
Paracalanus nauplius					1					
Paracalanus sp						1	2	3		
Paracalanus larva										2
Sagitta sp	1	+	1	3	2	4	3	2	1	1
Salpa sp				+						
Shrimp larva								+		
Obelia sp						+		+		

March											
21	22	23	24	29	30	31	32	33	34	35	36
17	17	17	17	18	18	18	19	19	19	19	19
16:25	15:20	14:00	12:15	11:05	12:25	13:40	07:35	09:30	11:15	12:55	10:50
3.0	1.5	3.0	1.5	2.5	2.0	4.0	2.0	9.0	1.5	1.2	9.0
100	50	50	50	50	50	—	50	—	—	50	—
7–73	7–80	2–152	30–171	50–262	50–400	50–338	55–373	50–305	50–389	50–590	50–426
9	3	16	8	16	28	20	24	17	26	37	21

Month	June										
Station	1	2	3	4	5	6	7	8	9	10	11
Date	15	15	15	15	15	15	15	15	15	15	15
Time	11:50	12:10	12:40	—	13:59	14:35	15:06	15:17	16:09	17:37	17:09
Volume (cc)	0.1	0	3.0	0.1	0.3	3.2	0.1	0.3	0.6	0.5	0.8
Rate of dilute	—	0	50	0	100	100	0	50	50	—	50
Collected depth	25-220	15-145	15-130	15-180	25-150	15-130	20-145	20-140	8-60	9	22-118
Total Organisms	—	—	27	44	24	23	43	15	14	8	21
ZOOPLANKTON											
Amphipoda sp			+		1	1					
Amphipoda larva											
Balanus larva		+		5	1	1	2	2	+		1
Brachyura larva			+	1	+	2		2	1	+	1
Copepoda sp	+	+	15	5		3	10	3	2	+	5
Ceratium sp							1		1		
Ceratium fusus										1	
Ceratium breve											
Calanus sp			4	3	4		9				
Corycaeus sp			2								
Cory. anglicus				3		2	2				2
Evadne tergestina	+								+	+	
Euphausia sp											
Phylopoda sp								1			
Hydrómedusae sp						+					
Medusae sp											
Lucifer raynaudii											
Limacina helicina			1	9	1						
Muggiaea sp											
Macrura larva					1			1			
Podon sp											1
Penilia geniculata									+		+
Noctiluca scintillans	+	+	2	9	5	14	8	3	9	5	6
Oikopleura sp				1		+	4		1		1
Oikopleura fusiformis											
Ostracoda sp			1		2		1	1			1
Oncaea sp			1				3		+		
Oithona sp	+										
Ophiopluteus sp				1							
Parathemisto sp											
Polychaeta larva			+	1							
Planktomya hensen											
Pelagic egg				4	1	+	1				1
Paracalanus larva				2							
Sagitta sp			+	+	1		2	2	+	+	2
Tintinnopsis sp			1								

June												
12	13	14	15	16	17	18	19	20	21	22	23	24
15	15	15	15	15	15	16	16	16	16	16	17	13
17:37	18:03	—	18:40	19:07	19:30	08:03	08:35	09:20	10:55	11:55	07:25	14:50
0.5	0.6	0.3	0.4	0.5	0.3	0.1	1.2	2.5	0.8	0.5	1.0	30
50	50	100	100	100	100	—	—	—	50	50	—	—
17–98	15–88	20–130	20–133	20–155	12–70	10–80	23–130	50–328	10–70	10–90	20–140	30
43	28	49	34	45	27	29	38	28	20	6	42	27

												15
	1	1				4			2		6	1
						4						3
3	2	4	1	3	1	3	20	9	3	4	11	3
	1	1						2	2		2	
8	9	9	10	16	13	2						
		1										
		3			1		10	3			12	
							3	3	2			
						6						
2						1						
								1				

				1								
											+	
							1	1			1	1
		1	1			1						1
						2					1	
3	1		2	3								
2	1	1	3	1	1							
16	11	18	12	17	3	1		1	4	1		
5		6	1	1				3	3			
				2							4	
						2						
					1				1	1		
											+	1
		1										
							2					
			+	1		1					1	1
								1			1	
4		1	4	3	4	3						1
	1					1		4	3		3	
		2										

Month	June										
Station	25	27	28	29	30	31	32	33	34	35	36
Date	13	17	17	17	17	17	17	17	17	17	17
Time	16:25	—	10:10	11:20	12:37	13:50	15:12	16:40	17:55	19:30	20:32
Volume(cc)	1.0	2.0	4.0	3.5	1.0	6.0	1.0	1.5	7.0	2.5	4.0
Rate of dilute	50	100	—	50	—	—	—	—	—	—	—
Collected depth	30	40-258	50-305	50-261	50-300	50-445	50-428	50-260	50-460	50	50-310
Total Organisms	12	24	58	34	53	—	31	20	22	17	20
ZOOPLANKTON											
Alima larva	1										
Aulacantha sp	3										
Balanus larva	1		1		1						
Brachyura larva	2							1		+	
Copepoda sp		12	26	13	16	++	9	4	3	7	8
Ceratium sp											
Cersumatranum					+						
Cermassiliens								2	5	1	2
Calanus sp	1	7	19	14	10	++		1	1	3	4
Corycaeus anglicus			5	4	15				1		
Doliolum sp						+++	1	2			
Evadne tergestina								3	4		
Euphausia sp									+		
Limacina helicina			1	1	1						1
Muggiaea sp	2	1					2	2		1	+
Macrura larva	1		+				1		+	1	
Podon sp									1		
Penilia geniculata								+	2		1
Noctiluca scintillans								+	1		
Oikopleura sp							3	3	2		
Oikopleura fusiformis											
Ostracoda sp	1		1		7	++	2				1
Oithona sp							1	1	2		
Ophiopluteus sp											1
Parathemisto sp	+		1	1	1	++	5		+	1	
Planktomya hensen											
Polychaeta larva								+			
Peridinium sp											
Pelagic egg			+	1	1	+		1		1	1
Paracalanus nauplius											
Paracalanus larva			2					+			
Sagitta sp			1	+	+		4			2	1
Salpa sp											
Scale									+		
Tintinnopsis sp		1	1	+							
Fish larva											+
Obelia sp		1									

June

1	2	3	3'	3"	3'''	4	5	6	7	8	9
1	1	1	1	1	1	1	2	2	2	2	2
15:05	15:30	15:35	16:05	16:20	16:35	17:10	16:30	07:07	07:40	08:10	09:02
1.0	2.0	5.5	5.0	2.5	4.5	2.5	13.5	3.5	6.0	4.0	3.5
200	150	200	200	200	200	200	200	200	200	200	—
50	30	5	4		10	40	40	10	10	10	10
—	—	—	—	—	—	—	1	—	—	6	4

Month	November								
Station	10	11	12	13	14	15	16	17	18
Date	2	2	2	2	2	2	2	2	2
Time	09:25	09:55	10:18	10:40	11:15	14:00	13:20	04:45	16:17
Volume(cc)	4.5	2.0	3.0	1.5	1.0	0.2	0.4	2.0	3.0
Rate of dilute	200	200	200	200	200	200	200	200	—
Collected depth	10	10	10	10	10	10	10	30	10
Total Organisms	—	2	13	6	3	3	10	2	2
ZOOPALNKTON									
Balanus larva					+				
Copepoda larva									
Copepoda sp	+	+	1	+	+	2	2	1	1
Ceratium sp								1	1
Cer. fusus						+	2		
Cer. sumatranum					+				
Cer. massiliens	+		1						
Cer' breve				3					
Cer, lineatum									
Dictyocha fibula		1			2				
Copepoda larva	+		+	1	1		+		
Glibigerivo bulloides									
Gymnodinium lunula						+			+
Hydromedusae sp									
Lingula larva			8						
Limacina helicina						+			
Muggiaea sp								+	
Noctiluca scintillans					+	+	2		+
Oikopleura sp	+	+	1		+	+	1	+	
Pelagic egg			+	+			+		
Paracalanus larva			+						
Sagitta sp		1	2	2	+	1	3	+	
Tintinnopsis sp	+								

November										
19	24	25	26	27	31	32	33	34	35	36
3	3	3	3	3	4	4	4	4	4	4
7:12	11:40	13:20	14:53	16:05	07:55	08:43	10:05	11:20	13:00	14:26
3.0	3.5	2.5	2.0	3.0	2.0	2.5	1.0	2.0	1.5	1.5
200	200	200	—	200	—	—	200	200	200	200
20	20	20	30	25	20	30	50	30	50	30
1	—	1	—	—	1	—	2	3	3	—

Month	January						
Station	1	2	3	3'	3"	3"'	4
Date	30	30	30	30	30	30	30
Time	10:34	11:12	11:47	12:10	12:24	12:40	13:25
Volume(cc)	0.1	1 0	0.2	1.5	0.8	1.5	2.0
Rate of dilute	—	150	150	100	100	100	150
Collected depth	20	35	25	10	10	—	35
Total Organisms	8	114	132	136	243	107	340
PHYTOPLANKTON							
Asterionella japonica							
Actinoptychus sp				1			1
Biddulphia sinensis		2	5	1	3	+	2
Bacteriastrum varians				30			11
Chaetoceros sp		27	13	1	12		22
Ch. affinis		+					12
Ch. borealis				3			
Ch. Lorenzianus			47	15	41	13	9
Ch. curvisetus	+						
Ch. densus		14	13	58	112	43	139
Ch. didymus		15	23	8	15	5	5
Ch. secundus							21
Ch. setoensis			4				
Cerataulina Bergonii							
Corethron criophilum							
Coscinodiscus sp	8		17				
Cos. Granii						+	
Cos. Janischii		18		21	22	21	15
Ditylum Brightwellii							
Eucampia zoodiacus		20				10	14
Guinardia flaccida							
Lauderia borealis			3	4	7	3	
Leptocylindrus danicus							10
Nitzschia seriata		+			10		
Paralia sulcata							
Pleurosigma affine		+					
Rhizosolenia sp	+	8		1	+	+	
Rh. styliformis							
Rh. setigera							
Rh. robusta			2				
Rh. hebetata	+						
Rh. Schrubsolei			3				18
Rh. Stolterfothii							
Skeletonema costatum						10	20
Stephanopyxis palmeriana		1	3	1	21		38
Thalassiothrix Frauenfeldii		9	2	+		3	3
Thalassionema nitzschioides							
Thalassiosira gravida		3					

January									
5	6	7	8	9	10	11	12	13	14
30	30	30	30	30	31	31	31	31	31
14:20	14:50	15:30	04:50	—	04:30	05:15	05:40	06:16	06:40
1.5	3.0	7.5	8.0	1.5	3.0	7.0	6.0	6.0	8.0
100	100	100	100	100	100	100	—	—	100
22	20	10	50	50	10	15	20	50	15
174	223	181	183	178	336	184	199	143	189
			6		13			8	13
							2		
3									
+									
35	26	25	10	15	58	10	20	15	15
14									
					3				
8	3					5			
21	122	111	105	90	124	115	133	50	83
29									
								5	
2									
3									
14	5								+
						+			
	6	10	6	3	2	6	2	3	
			+	+			1		
	28	18	28	35	64	20	8	+	4
4	3								2
7				+					
					4	5	+	22	9
					5			10	2
			+						
					1	1	+		+
16	6	8	3	8		8	14	15	15
			4	3					
						4			
			9		11		12		
						3	+	9	5
	22		+	18	20	+	+		47
8									
10	2	7			5	+			
		2	9	6	4	7	7	6	4
					14				

Month	January									
Station	15	16	17	18	19	20	21	22	23	24
Date	31	31	31	31	31	31	31	31	31	31
Time	07:15	07:42	08:15	09:05	09:45	10:40	12:10	13:27	14:32	16:12
Volume(cc)	3.5	1.0	3.0	1.0	0.8	0.8	4.0	0.5	2.0	0.5
Rate of dilute	—	100	100	100	100	150	200	100	150	850
Collected depth	10	20	10	10	30	50	10	10	20	40
Total Organisms	131	264	126	110	209	241	559	297	220	474
PHYTOPLANKTON										
Asterionella japonica		5					+			
Biddulphia sinensis						+		+	5	
Bacteristrum varians								7		
Chaetoceros spp	15	10	8	30	7	15	25	11	4	17
Ch. affinis		7			5		10			15
Ch. borealis								3		
Ch. Lorenzianus				8		10	11	24	10	63
Ch. curvisetus			9							30
Ch. densus	60	90	75	24	10	7	40	6	9	19
Ch. didymus			20					4	9	60
Ch. pendulus								2		
Ch. socialis										
Ch. setoensis								3		
Cerataulina Bergonii										
Coscinodiscus sp					17		3			9
Cos. asteromphalus										
Cos. Granii					6	8		5	4	
Cos. Janischii	+	+	+	4	21	19	11	15	48	48
Ditylum Brightwellii					2					
Ditylum sol									+	
Eucampia zoodiacus	5	+	+		68	60	71	+		14
Guinardia flaccida							5		2	2
Detonula confervacea										
Lauderia annulata										4
Lauderia borealis					3				+	
Leptocylindrus danicus	11	111	5							
Melosira sp										
Nitzschia seriata		7	+	1	5		51	16	16	12
Pleurosigma affine					+					
Rhizosolenia sp				10	8	3			2	
Rh. styliformis	5	8	2		54	115	205	133	107	129
Rh. setigera	3	1	2	4				5		
Rh. robusta				1		2	11	4		3
Rh. alata										5
Rh. acuminata	+	5	1							
Rh. calcar-avis									3	
Rh. Schrubsolei	4							6		
Rh. Stolterfothii		12	+	2						
Skeletonema costatum	19	8	8	10			111	15		+
Stephanopyxis palmeriana										
Synedra sp						2	+	4	5	16
Thalassiothrix Frauenfeldii	9			2				5	+	15
Thalassionema longissima								6	1	
Thalassionema nitzschioides		+	5	5	3		5	23	23	
Thalassiosira gravida										8
Thalassiosira subtilis										
Thalassiosira sp										

February										
1	2	3	3'	3"	3‴	4	5	6	7	9
24	24	24	24	24	24	24	24	24	24	24
06:45	07:35	08:05	08:25	08:45	09:05	09:55	10:35	11:05	11:45	13:07
2.0	10	10.0	20	11	18	18	18	10	20	6.0
100	100	100	100	100	100	100	100	—	100	—
10–100	25–150	20–110	12–80	7–65	10–60	30–120	30–130	15–80	20–95	8–50
371	181	254	176	96	131	76	108	65	143	63
									5	4
13	3	10	7	3	9	1	3	1	3	+
					30		15			
6		10	3			3	5	3	8	10
	3							6		5
		22						7	+	
50	8	14	14	9	12		8			7
16				5		7				
cc	++	++	cc	cc	cc	cc	cc	cc	cc	cc
2	7			6	5			4		
2	4					1				+
3	4	2		2	2				2	
			4							
3	2	4	3	4	3	2	3	1	4	7
1	2	1				+				
119	122	119	132	60	33	44	51	24	91	5
17	12	3								
29	3	57	1		7	1	15	10	14	2
	+			2	3				5	
	3				5	5		6	1	
										5
2				2		+	2	1	1	1
		1			3	+		1	7	
2			4							
	+		1						+	
	2									
	+				1		1			
4					5					4
					6					
20	17	10	7	3	4	13		1	+	3
									+	
+						+		+	2	3
	+	1					5		+	
3										4
	++		+		2			cc	++	
										3

Month	Febdruary								
Station	10	11	12	13	14	15	16	17	18
Date	24	24	24	24	24	24	24	24	24
Time	13:45	14:22	15:00	15:15	15:35	16:10	16:35	17:00	17:45
Volume(cc)	1.5	3.0	3.0	4.5	5.0	4.0	2.0	1.0	2.0
Rate of dilute	—	100	100	—	100	—	—	100	—
Collected depth	10–70	20–125	15–100	10–70	15–80	12–95	15–95	12–90	5–40
Total Organisms	100	29	41	7	25	36	10	83	42
PHYTOPLANKTON									
Asterionella japonica	5			+				8	
Actinoptychus sp									
Biddulphia sinensis		+	1				+	1	1
Bacteriastrum varians									
Chaetoceros spp	3		2		15	14	6	5	
Ch. affinis									
Ch. borealis									
Ch. Lorenzianus									
Ch. curvisetus	11								8
Ch. densus	20								5
Ch. didymus	12							3	
Ch. socialis		++	++		+			+	
Cerataulina Bergonii									
Coscinodiscus sp	3	2				2			3
Cos. Granii									
Cos. Janischii		6	5	4	2		3	2	5
Ditylum Brightwellii									
Eucampia zoodiacus	16	10	20		2	3	+	55	3
Guinardia flaccida	1							+	
Lauderia borealis	5	2		+		1	+	2	1
Leptocylindrus danicus								4	
Melosira sp	5	2							
Nitzschia seriata								1	2
Pleurosigma affine								1	1
Rhizosolenia sp		+					1		
Rh. robusta									
Rh. calcar-avis		1	1	1					
Rh. Schrubsolei			2						
Rh. Stolterfothii	2		2	+		16	+	2	
Skeletonema costatum			8					9	13
Stephanopyxis palmeriana	8		+						+
Thalassiothrix Frauenfeldii									
Thalassionema nitzschioides		7	2		5		+		+
Thalassiosira gravida	4								
Thalassiosira subtilis									
Thalassiosira sp	5	+							

February										
19	20	21	22	23	27	28	29	30	31	36
24	25	25	25	25	25	25	25	25	25	25
18:30	05:37	07:10	08:10	09:25	10:45	11:50	13:10	14:25	15:35	16:50
1.0	4.5	0.5	3.0	2.0	2.0	6.0	1.0	9.0	2.0	12.0
—	100	100	—	—	—	—	—	—	—	—
30–190	50–320	10–95	15–70	20–100	45–200	20–75	50–325	50–320	50–330	50–335
142	107	217	142	247	137	238	276	135	187	64

		2								+
2		1		2	2	10	7	2	10	3
									+	
5	5	7	13	10	11	10	13	6	18	1
						15			+	
			9					7		
6				7	2	9	14		+	
								15		
	18	47	35	10	10	8				
	4			5	17					4
1	2				6	+ +	5	cc	cc	cc
					8	1	3			
13	7	10	4	4	9	1	8		3	
6										
30	9	12	10	8	15	10	9	9	8	1
					+					
42	54	77	55	149	43	112	123	74	67	25
	1			6				+	+	
9				30	3	36	48	21	72	13
		5			+	+				
8		39	8	3	+	8	3			15
2		3	5	1	+	1	2			2
				2			6	1		
					1					
	1	13	3							
					2	7	7		5	
3		1		2		4				
5										
7	6	+		8	8	3	10	+	2	
					+		18		+	
3						3				
								+	2	+

Month	March										
Station	1	2	3	3'	3"	3"'	4	5	6	7	8
Date	16	19		19	19	19	16	16	16	16	16
Time	9:30	16:20	14:35	15:55	15:35	15:20	12:10	12:15	13:35	14:05	14:35
Volume(cc)	5.0	4.0	2.0	0.5	1.0	2.0	6.0	7.0	3.5	5.0	2.5
Rate of dilute	50	50	50	70	50	50	50	100	50	100	100
Collected depth	20 150	20 157	20-161	10-359	10-173	10-100	30-290	20-217	15-490	25-209	25-280
Total Organisms	39		3	3	5	5	4	9		2	4
PHYTOPLANKTON											
Actinoptychus sp											
Biddulphia sinensis	3		+	2	3	2			+	+	+
Chaetoceros spp	15		3			+					
Ch. affinis											
Ch. Lorenzianus											
Ch. curvisetus											
Coscinodiscus sp			+	1	1	3			+		
Cos. Janischii	4						-1	1		2	4
Eucampia zoodiacus					1						
Guinardia flaccida											
Leptocylindrus danicus	1										
Nitzschia seriata	4										
Rhizosolenia Castracanei											
Pleurosigma affine	1										
Rhizosolenia sp	+										
Rh. styliformis											
Rh. robusta											
Rh. acuminata											
Rh. Stolterfthii											
Skeletonema costatum				+							
Stephanopyxis palmeriana							3				
Thalassiothrix Frauenfeldii								8			
Thalassionema longissima	3										
Thalassiothrix nitzschioides	7										
Thalassiosira sp	1										

March												
9	10	11	12	13	14	15	16	17	18	19	20	21
16	16	16	16	16	16	16	16	17	17	17	17	17
15:15	15:50	16:39	17:05	17:40	18:10	18:12	19:31	16:30	07:02	08:10	09:10	16:25
3.0	3.5	3.0	3.5	2.0	5.0	7.0	3.0	1.0	1.5	0.2	4.0	3.0
50	50	50	50	50	50	50	50	50	50	50	100	100
7–58	10–75	15–120	15–153	10–153	15–175	15–110	15–320	10–85	10–77	20–139	50–283	7–73
11	1	—	4	6	4	2	17	5	4	213	198	226
						2			+	+	1	
							2			6	15	20
							2					
4									+			
										11		
7	1	+		4				+				
			4		4		2		2	5	4	1
								+	+ +	185	170	160
										1	+	10
												10
		+		2				+				6
									2			
										5	1	
							8					
											1	
												10
												9
								5			4	
	+				+						+	
	+						3				2	

Month	March										
Station	22	23	24	29	30	31	32	33	34	35	36
Date	17	17	17	18	18	18	19	19	19	19	19
Time	15:20	14:00	12:15	11:05	12:25	13:40	07:35	09:30	11:15	12:55	10:50
Volume(cc)	1.5	3.0	1.5	2.5	2.0	4.0	2.0	9.0	1.5	1.2	9.0
Rate of dilute	50	50	50	50	50	—	50	—	—	50	—
Collected depth	7–80	20–152	30–171	50–262	50–400	50–338	50–373	50–305	50–389	50–590	50–426
Total Organisms	100	180	205	82	31	8	12	6	17	21	6
PHYTOPLAKTON											
Asterionelle japonica											
Actinoptychus sp			1			2					
Biddulphia sinensis	+	1	12	3	1			1	1	4	
Chaetoceros spp	7	23	25		+						
Ch. affinis											
Ch. Lorenzianus											
Ch. curvisetus			15						+		
Ch. densus				8							
Ch. pendulus											
Ch. socialis			cc	+							
Ch. secundus	5										
Ch. setoensis											
Cerataulina Bergonii											
Coscinodiscus sp				2				1	3	1	2
Coscinodiscus Granii			4	1					2		
Coscinodiscus Janischii	2	9	4	+	3	2		3			
Ditylum Brightwellii			4								
Eucampia zoodiacus	75	120	105	45	15						
Guinardia flaccida		2		3			+	+			
Lauderia annulata							1				
Lauderia borealis				14							
Leptocylindrus danicus	5	12									
Nitzschia seriata											
Hemialus Heibergii	3										
Pleurosigma affine	1	1									
Rhizosolenia sp	2			4	1			+	+	1	
Rh. styliformis											
Rh. setigera											
Rh. robusta				+	1						
Rh. alata						2					
Rh. acuminata		6									
Rh. Stolterfothii											
Skeletonema costatum							11				
Stephanopyxis palmeriana	+	6	35					1	+		4
Thalassiothrix Frauenfeldii				2				+	7		
Thalassionema nitzschioides	+				7	2		+	4	15	
Thalassiosira sp											

June												
1	2	3	4	5	6	7	8	9	10	11	12	13
15	15	15	15	15	15	15	15	15	15	15	15	15
11:50	12:10	12:40		13:59	14:35	15:06	15:17	16:09	16:37	17:09	17:37	18:03
0.1	0	3.0	0.1	0.3	0.2	0.1	0.3	0.6	0.5	0.8	0.5	0.6
	0	50	0	100	100	0	50	50	—	50	50	50
25–220	15–145	15–130	15–180	25–180	15–130	20–145	20–140	8–60	9	22–118	17–98	15–88
—	—	67	113	101	120	128	52	139	32	79	65	65
+	+	23		11	21							1
+		4	12	5	4	5	3	2	2	2	1	3
	+	10	12		5		6	20	5	5	13	3
+		11		4	25	7	5	11				
			6		5		2					
			7	12								
					3							
+												
				10								
							+					
			10	1		3						2
			11	1	6		2	+				
+					1						2	
+												
								26				
		5			5	11		9		6		
+	+											
	+	1			1						1	
				5							1	
								3	3			
				1	1	2	5	3	1	4	1	1
		+			3						3	
cc	+	80%	15	48	80%	65	18	37		50	35	40
			5		15	18	3	10			3	5
+		13	35	3	25	17	8	18			3	10
											2	

Month	June									
Station	14	15	19	17	18	19	20	21	22	23
Date	15	15	15	15	16	16	16	16	16	17
Time		18:40	19:07	19:30	08:03	08:35	09:20	10:55	11:55	07:25
Volume(cc)	0.3	0.4	0.5	0.3	0.1	1.2	2.5	0.8	0.5	1.0
Rate of dilute	100	100	100	100	—	—	—	50	50	—
Collected depth	20-130	20-133	20-155	12-70	10-80	23-130	50-328	10-70	10-90	20-140
Total Organisms	111	31	57	64	88	24	85	217	134	250
PHYTOPLANKTON										
Asterionella japonica								4	18	22
Actinoptychus sp	1									
Biddulphia sinensis		1		1				3	1	2
Chaetoceros spp	2				16	5			8	30
Ch. affinis	10		10		9	9	9	59	30	22
Ch. Lorenzianus										20
Ch. curvisetus								10		10
Ch. Frichei								15	5	12
Ch. constrictus				13	16					
Ch. densus								5		17
Ch. didymus								8	7	17
Ch. contortum										4
Ch. setoensis				5	11	7	13	15	10	23
Coscinodiscus sp							7	2	1	
Cos. asteromphalus					6					
Cos. Granii										
Cos. Janischii	2			1		3	5		2	10
Ditylum Brightwellii		3							1	
Eucampia zoodiacus							3			
Leptocylindrus danicus	6						7		5	
Nitzschia seriata	11			5			9	25		
Rhizosolenia Castracanei	1									
Paralia sulcata										
Pleurosigma affine	1									
Rhizosolenia sp	1						1	11		6
Rh. styliformis	6	3	3		2					
Rh. setigera	5	4								
Rh. imbricata					2					
Rh. arafurenris										
Skeletonema costatum	60	20	40	30	14			9		6
Stephanopyxis palmeriana									3	
Thalassionema Frauenfeldii					8					
Thalassionema longissima								2	1	1
Thalassionema nitzschioides	5		4	9	4		31	40	42	48

June											
24	25	27	28	29	30	31	32	33	34	35	36
13	13	17	17	17	17	17	17	17	17	17	17
14:50	16:25	—	10:10	11:20	12:37	13:50	15:12	16:40	17:55	19:30	20:32
30	1.0	2.0	4.5	3.5	1.0	6.0	1.0	1.5	7.0	2.5	4.0
—	50	100		50	—	—	—	—	—	—	—
30	30	40-258	50-305	50-261	50-30	50-445	50-428	50-260	50-460	50	50-390
42	35	9	45	9	17		5	20	23	15	2

Month	November									
Station	1	2	3	3'	3"	3"'	4	5	6	7
Date	1	1	1	16:05	1	1	1	2	2	2
Time	15:05	15:30	15:35	16:05	16:20	16:35	17:10	16:30	07:07	07:40
Volume(cc)	1.0	2.0	5.5	5.0	2.5	4.5	2.5	13.5	3.5	6.0
Rate of dilute	200	150	200	200	200	200	200	200	200	200
Collected depth	50	30	5	4	—	10	40	40	10	10
Total Organisms	400	601	219	563	447	676	510	608	613	462
PHYTOPLANKTON										
Asterionella japonica		16	6	15		33	20	40	25	
Asterionella sp	5									
Actinoptychus sp										
Biddulphia sinensis	1	+	1		+	+	5	1	+	+
Biddulphia aurita						2				
Bacteriastrum varians							4			
Chaetoceros spp	20	25	15	15	15	25	13	16	35	15
Ch. affinis	10	12		15	10	20	20	15	25	25
Ch. borealis	4	15				8		4	13	15
Ch. Lorenzianus	5	15	5	15	6	3	15	25	50	20
Ch. curvisetus	5						20	25		
Ch. Frichei										
Ch. densus			8			6	3			
Ch. didymus		4				3				
Ch. debilis			+	15			5			
Ch. pendulus	2	2	+	16	1	2	3	2		
Ch. decipiens									6	3
Ch. contortum			4							
Ch. mitra										
Ch. teres			30							
Ch. socialis									+	
Ch. compressus								4	5	
Ch. secundus						12				10
Ch. setoensis		6	6			6	8	4	10	3
Cerataulina Bergonii										
Coscinodiscus sp										+
Ditylum Brightwellii	1	+	1	+	+	+	1	1	+	+
Eucampia zoodiacus		5				+				
Lauderia borealis	2		+	+	2	+	+	+	+	
Leptocylindrus danicus										
Nitzschia seriata	4	7				15	10	14	8	15
Rhizosolenia Castracanei	3									
Hemiaulus Heibergii	1		+				+		+	
Pleurosigma affine	1	1		+		1	1	+		1
Rhizosolenia sp				3	6			6		
Rh. styliformis						7			5	8
Rh. setigera	3	4	2	2	3	9	3	12		
Rh. alata										
Rh. acuminata					1					
Rh. hebetata										
Rh. calcar-avis									3	
Rh. Schrubsolei	3				5					
Rh. Stolterfothii							+			
Skeletonema costatum	300	450	123	450	360	450	360	390	390	300
Stephanopyxis palmeriana	4	+	+			+	+	6	15	3
	1									
Thalassiothrix Frauenfeldii	6			10	15	21	3	3	15	15
Thalassionema longissima	5	2	10		1	4			3	1
Thalassiothrix nitzschioides	15	37	8	7	12	34	13	21	13	25

November												
8	9	10	11	12	13	14	15	16	17	18	19	24
2	2	2	2	2	2	2	2	2	2	2	3	3
08:60	09:02	09:25	9:55	10:18	10:40	11:15	14:00	13:20	04:45	16:17	07:12	11:40
4.0	3.5	4.5	2.0	3.0	1.5	1.0	0.2	0.4	2.0	3.0	3.0	3.5
200	—	200	200	200	200	200	200	200	200	—	200	200
10	10	10	10	10	10	10	10	10	30	10	20	20
493	396	342	298	247	224	321	117	99	106	101	95	48

13 5 6 10

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10 8 20 10 15 40 30 10 10 10 10 10 5
35 40 12 10 14 25 10 + +
30 10 15 8 15 35 10 5 13 10 15 5
20 45 20 20 8 35 20 15 9 12 10 20 8

10 + 10
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10 4 + 10 7 5

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2

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\+ 5 +

10 5 15 8 7 25 7 5

1 + + +
4 6 5 10 10 20 5

10 10 10 5 5 6 7 10 3 15 15 23 10
2 4 2
1

2 2

2 3

1 5 + +

300 240 240 180 150 60 125 45 30 15
5 8 7 3 + 5 + + + 3 + 3

13 13 3 20 12 10 5 + 6 5 + +
3 4 1 1 5 3 2 5
25 18 5 13 10 25 15 8 8 18 3 +

Month	November								
Station	25	26	27	31	32	33	34	35	36
Date	3	3	3	4	4	4	4	4	4
Time	13:20	14:53	16:05	07:25	08:43	10:05	11:20	13:00	14:26
Volume(cc)	2.5	2.0	3.0	2.0	2.5	1.0	2.5	1.5	1.5
Rate of dilute	200		200	—	—	200	200	200	200
Collected depth	20	30	25	20	30	50	30	50	30
Total Organisms	81	91	665	390	72	76	92	44	72
PHYTOPLANKTON									
Asterionella japonica			3	8					
Asterionella sp									+
Actinoptychus sp			+						
Biddulphia sinensis	1	2		+	2			1	1
Bacteriastrum varians					5				
Chaetoceros spp	9	18	10	10	10	11	35		15
Ch. affinis			13	20	1				
Ch. borealis	10	3	3	5	5	2	5		10
Ch. Lorenzianus	19	8	3	10	13	8	18	5	5
Ch. curvisetus			8	8					
Ch. Frichei							+		
Ch. densus								3	8
Ch. didymus							5		
Ch. coarctatus	17						+		
Ch. pendulus				+			3		
Ch. atlanticus					7				
Ch. setoensis									3
Cerataulina Bergonii		2		+	+	3	+	+	2
Coscinodiscus sp	+				+		+	+	+
Coscinodiscus Granii							2		
Ditylum Brightwellii	+		+	+	+				
Lauderia borealis	+				+		+		
Nitzschia seriata		4	6	8					+
									1
Rhizosolenia sp	5		2	3	6	10	8	5	5
Rh. styliformis		18	5		5	2		15	3
Rh. setigera			1	1					
Rh. robusta									+
Rh. alata	3	3							
Rh. calcar-avis									5
Rh. Schrubsolei		18			3			8	7
Rh. Stolterfothii	+						3		+
Skeletonema costatum		8	600	300	3	20			5
Stephanopyxis palmeriana	6	+		+	+			3	+
Thalassiothrix Frauenfeldii			+	6	10	3	+	+	+
Thalassionema longissima	11	7	1	4	3	15	10	4	2
Thalassiothrix nitzschioides	+		10	5		2	3	+	

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編輯兼
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海洋調查年報 正誤表

Volume 9 (1960)

Errata

頁 Page	行 Line	列 Column	誤 Error	正 Correct
22	21	7	125.43'	125°30'
31	14	3	31.89	34.19
31	17	3	26.17	34.17
31	17	4	23.42	34.12
31	15	5	31.53	34.35
31	18	5	29.76	33.97
31	16	7	26.29	34.09
31	17	7	33.22	34.02
35	13	5	32.66	34.16
43	25	6	Cc. 3	Cc. 9
44	24	7	E.10	E. 5
44	25	7	Cc. 5	Cc.10
51	4	3	0301	0818
55	22	7	4	3
78	下	10	Rhizosenia	Rhizosolenia
80	下	10	Aulcanntha Scolymanth	Aulacntha Scolymantha
81	Mar.	Station	15. 16. 17. 18. 19. 20	6. 5. 4. 3. 2. 1
81	Apr.	Station	15. 16. 17. 18. 19. 20	6. 5. 4. 3. 2. 1
82	Jun.	Station	15. 16. 17. 18. 19. 20	6. 5. 4. 3. 2. 1
82	Oct.	Station	15. 16. 17. 18. 19. 20	6. 5. 4. 3. 2. 1
96	上	23	Noctilca scintillance	Noctiluca scintitillans.
109	27	3	Si. 2	Ci. 2
110	3	9	39°07'	36°10'
147	11	5	33.14	33.01